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SPENCER W. ROBINSON, EDITOR

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Volume 54, No. 13 *September 13, 1929*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

Court Action to Force Gas Law Observance in California

Slight production loss at Santa Fe Springs due to natural decline with no effect from conservation act

By BRAD MILLS
Staff Representative

LOS ANGELES.—The State of California, through the Division of Oil and Gas, has announced that every operator in the Santa Fe Springs field will be made a defendant in a suit to secure an injunction to prevent further waste of gas. Attorney for the state already has the papers prepared and has definitely announced that they will be filed not later than September 12. The application for injunction probably will be heard by the Judge of the Superior Court not later than September 20, at which time it is expected that application will be sustained.

The new gas conservation law, after getting away to a poor start as far as actual reduction of both oil and gas production was concerned and following the failure of several operators to ratify the proposed agreement to prorate gas for distribution, is showing its teeth with considerable fury and machinery has been set in motion to make it effective at once.

Despite encouraging reports by companies which are supposedly in full accord with provisions of the new law, little has been done to reduce the gas waste. Here and there, a few wells have been changed in a feeble effort to reduce the percentage of waste, but on the whole, large companies and small ones alike are awaiting further developments. It is this reluctance to get together among themselves that has aroused the state to action, and it is now an assured fact that gas waste is going to be reduced to a minimum in the face of any and all opposition that may develop.

Ventura and Long Beach Defendants

Ventura is next in line and all operators in the field will be a party to a suit by the state to stop gas waste in this troublesome area. Exactly the same form of injunction will be served on these operators as was served at Santa Fe Springs and no time will be lost in filing the suit.

Every operator in the Long Beach field will be a party or defendant to a similar suit brought by the state, and while the exact date has not been determined, the injunction will be served only a few days after service on operators in the Santa Fe Springs and Ventura fields.

These three fields have been selected because they are chiefly responsible for the enormous waste of natural gas, and injunctions will be served in the foregoing order because the order of gas waste runs accordingly. Santa Fe Springs will get attention first because it is the chief offender and each day's delay is responsible for the waste of more than enough gas to supply all of Southern California's needs.

The state will not attempt to force the issue on Santa Fe Springs operators, however, and will allow operators in fields responsible for a smaller waste to go unmolested. All will be served as soon as possible and the same stringent measures applied if necessary. It has been pointed out that it is fair to take the fields in the order of waste.

Following the failure of operators to reach an agreement among themselves as to the best method of disposing of the gas which must be produced if wells continue to flow, a mild disregard of the law has been in evidence. This violation is not necessarily flagrant, but the fact that gas is being wasted in approximately the same quantities as prior to September proves that the statute is not being observed.

As a matter of fact, most operators are waiting for the state to force the issue, and will "surrender" after the injunction is served. When the operators in accord with the law acquiesce, those opposed will stand out prominently and will be forced to fight their battles alone. It is hoped that it will not revert to the old conservation cry of "my neighbor is producing wide open, so why can't I." The state is not expected to tolerate such passive resistance.

Little Effort to Conserve

In three fields, a few companies have reduced the size of beans on flowing wells in an effort to save gas, while in other fields a few wells have been shut in. In the main, however, no wholehearted attempt has been made to immediately eliminate all of the gas waste at one stroke. Only such conscientious efforts will bring California's gas waste to a minimum and place operators strictly within the law.

If the curtailment agreement is not carried out at Kettleman Hills, the state will not overlook this field. Operators and the government have been trying for several months to formulate plans for conserving both gas and oil in the area, and the state will make no effort to interfere with this procedure.

At a special luncheon given by the Chamber of Commerce at Los Angeles, several state officials and others were asked to place their interpretation on the new law, to briefly outline the methods of enforcement and to aid in arousing public sentiment against waste of gas in California. It was at this meeting that plans for the enforcement of the statute were announced.

R. D. Bush, state oil and gas supervisor, read the revised plans drawn up by the major operators, providing for the disposition of surplus gas. He appealed to operators for cooperation on the basis of an average daily gas waste of almost 900 million cubic feet daily during July. August figures probably will run much higher, he said, with an enormous waste

in prospect for several months more unless something is done immediately. The revised plan, which has been approved in principle by the state mining bureau follows:

"1. It is proposed to form an association of all the operators who subscribed to the agreement.

Method of Governing Gas

"2. The amount of gas sold to the gas distributing companies shall be taken prorata from all subscribers, but the companies having the contracts are to receive payment for such gas up to the minimum quantity of their contracts as though their own gas had been delivered. The proceeds of the sale of all gas delivered in excess of the minimum of the contracts are to belong to the association and to be used to defray in part the cost of gas storage. It is estimated that this will amount to $2000.00 daily average.

"3. A subscriber's pro-rata of the total deliveries of gas from the field is determined by adding together: (a) The ratio that such subscriber's potential gas production in the field bears to the total potential gas production of all subscribers in such field, and (b) The ratio that such subscriber's total oil potential production in the field bears to the total oil potential production of all subscribers in such field.

"The sum of such ratios is then divided by two and the result is the subscribers pro rata for that field. The potential gas and oil production of a subscriber are those productions for the first 10 days of the last 15 days prior to the date of the agreement. The potential gas and oil production of a well completed subsequent to the date of the agreement is to be average daily gas and oil production for the last four days of the first five days of its initial production. The potential gas and oil productions are to be re-established each month, or oftener if necessary, on the basis of decline curves, or such other basis as may be selected by the managing committee. In the event that this method of determniing the pro rata proves defective, inequitable, or results in undue hardship to any subscribers, the method may be modified, and a new method provided may be authorized to remedy the defects, but only on the written consent or vote of three-fourths of the full managing committee.

Managing Committee

"4. The association is to be operated by a comimttee of 14 to be known as the "managing committee," one member of this committee to be named by each of the seven contributors, and the other seven to be representative of non-contributors in each field covered by this agreement who are subscribers to it. The companies who are at present the seven contributors are Associated Oil Company, General Petroleum Corporation of California, Richfield Oil Company of California, Shell Oil Company, Standard Oil Company of California, The Texas Company and Union Oil Company of California. All vacancies occurring are to be filled by the managing committee by representatives of the same class as that to which the retiring committeeman belongs.

"5. The managing committee is to elect its chairman and other officials, but no officer of the association is to receive a salary except the secretary. The agreement provides for the employment of assistant statisticians, accountants, and clerks, as necessary, and their duties, terms and salaries are to be determined by the managing committee.

"6. The expenses of the association are to be paid first from the funds belonging to the association, which are the proceeds from the sale of gas. These funds will not be sufficient for all purposes, and additional expense is to be paid by subscribers who have obligated themselves to do so, and such subscribers are designated as contributors. Each of the seven companies above mentioned agree to contribute equally an amount not in excess of $230,000.00 a year, making a maximum total of $1,610,000.00. Other contributors are to indicate the maximum of their annual liability, and expenses are to be prorated among all contributors on the basis of their contribution.

Right to Withdraw

"7. Any subscriber to this agreement has the right to withdraw from the association at the expiration of two years after the agreement becomes effective, or at the end of any year thereafter upon six months written notice.

"8. When the agreement becomes effective, it is to be presented to the oil and gas supervisor for official approval which is to be given on the same terms to which a subscriber is subject, that is, for two years after the effective date and termination of approval thereafter on six months written notice.

"9. When the agreement is terminated, if there are any funds or assets to be distributed, each contributor is to be repaid in proportion to his contribution, and whether a contributor or not, to be entitled to share in the distribution of any balance in the ratio in which he contributed gas.

"There is to be no charge made against members of the association for the storage and repressuring of gas, whether in the field in which it is produced or in an outside field. A contributor of gas is indirectly reimbursed for his delivery of gas by reason of the fact that proceeds of the sale above the minimum of existing contracts are used by the association to defray in part the cost of storage. In the case of gas stored in the field in which it is produced the contributor of gas will therefore have in the future an opportunity to recover the stored gas if his property overlies the zone in which the gas is stored.

"The fundamental principle of this plan is that every one shall have an equal pro-rata opportunity to make physical disposition of the gas, so that no one will be obliged to blow gas into the air, or curtail his oil production in disproportion to his neighbors."

E. B. Reeser Gives Opinion

E. B. Reeser, president of the American Petroleum Institute, who has been in California for several weeks making a study of the situation, spoke on the necessity of conserving the natural resources of the state. He explained that in some localities two feet of natural gas are wasted for each one utilized, and that if the people in general realized what was going on in this respect they would rise up and demand that such a waste be stopped in the interest of the common good. Mr. Reeser explained that if the present rate of gas waste continues, Los Angeles County will be short of gas within two years. He stated that gas is chiefly controlled by companies which are willing to prevent waste, but only through strict cooperation can definite results be obtained. If 95 per cent of the operators agree and five per cent disagree, the plan will not succeed, he concluded.

J. S. Bennett, attorney for the state mining bureau, stated that in his opinion the gas conservation is constitutional and can be enforced. He explained that an old law may be enforced long after its usefulness has passed, while on the other hand it is very difficult to enforce a new law if public opinion is not favorable. He urged that all operators support the statute.

Claude C. Brown, gas administrator, illustrated the present gas distribution system in California and showed that present and proposed natural gas lines will extend from San Francisco to San Diego. Demands for the commodity will increase, while the supply is almost sure to decrease if the present waste continues, he said. It was shown that the total capacity of all trunk lines in the state is now 400 million cubic feet, with a larger amount being wasted. Brown explained of the 317 billion cubic feet of natural gas produced in California in 1928, almost 25 per cent was wasted. The amount blown to the air was equivalent to about three million tons of good coal. During the first seven months of 1929. 128 billion cubic feet was wasted, according to actual production records. It was pointed out that of the present production of almost two billion cubic feet of gas in California, nearly one billion cubic feet is being wasted. A total of 1,250,000 people are using gas in California, Brown stated, and of this amount a large percentage is forced to use artificial gas.

Thomas O'Donnell, former president of the American Petroleum Institute, made a strong plea for the elimination of natural gas waste. He contended that the state must draw a dead line and should not wait for the oil companies to reach an agreement among themselves. He advanced the thought that hundreds of millions of gallons of gasoline had been shipped through the Panama Canal to the Atlantic Seaboard and sold at less than its actual worth, all for the sake of disposition. At the same time, the market was weakened on both ends, he said. Reduction in gas waste is sure to result in less oil and better conditions, O'Donnell concluded.

Signal Hill, Long Beach, as seen from the air

CALIFORNIA AIR TRIP DEMONSTRATES VALUE OF AVIATION *To the OIL INDUSTRY*

By H. J. STRUTH
Staff Economist

FLYING over the oil fields of California at an average elevation of 10,000 feet presents a far different spectacle than the act of passing through them via motor car, or standing amid a forest of derricks. No more typical example of the value of aviation to the petroleum industry could be cited than the personal experiences of the writer during his recent visit to California, aboard the Rio Grande Oil Company's de luxe trimotored Fokker air cruiser. It took two weeks of constant travel by motor car to cover the territory that was laid before the writer's eyes in panorama within the short space of a little over five hours by plane. Approximately 600 miles of California oil territory was traversed by the plane and party of eight, including representatives of various oil publications.

Beside affording its passengers an intimate view of derrick-forested flush oil producing areas, tank farms, refineries, natural gasoline plants and numerous wildcat operations, the plane demonstrated the absolute necessity for aviation in the petroleum industry as an accurate means of studying contours of the earth's surface and areas of formations constituting potential oil producing property. Thus, while the airplane is filling an important need in supplying a swift means of transportation between oil company offices and producing properties, it is also playing a most important part as an accurate means of mapping and surveying present and prospective oil territory. Aviation in the petroleum industry is no longer in the experimental stage—it has already become a necessary adjunct to a great many progressive oil companies.

De Luxe Plane

Rio Grande Oil Company, realizing the need for aviation within its organization, spared no expense to obtain a comfortable, speedy plane that could be depended upon to not only furnish transportation to its officials but also as an invaluable aid to the geological and land departments of the company. The ship is a Fokker, special de luxe, tri-motored cruiser, carrying eight passengers and two pilots. The wing spread is 80 feet, length 55 feet; 1,275 horsepower, climbs at the rate of 1,400 feet a minute, cruises at 118 miles per hour, and has a top speed of 140 miles per hour. It carries 540 gallons of gasoline, has a cruising range of 1,200 miles, is equipped with special features such as writing desk, typewriter, card table, lounge, refrigerator, and its cost of construction exceeded $80,000. It is one of the most luxuriously appointed transport planes in service and has thus far proven of inestimable value to the company on a number of transcontinental trips in carrying officials to points in the East.

The photographs reproduced herein are but a few of many interesting and instructive views obtained during the writer's recent flight in this plane. These furnish some idea of what can be accomplished in the way of obtaining accurate maps of oil producing territory. It was particularly demonstrated that while flying at an elevation of 10,000 feet, it is possible to obtain valuable photographs of a wide range of territory, affording an intimate study of surface formations that have a direct bearing upon the production of oil. At this height, the larger oil fields were clearly discernable, presenting a clear-cut idea of their shape and scope. At lower altitudes, it was possible to view numerous wildcat wells situated in more remote locations, giving an indication of probable extensions to major producing formations. To those familiar with the territory traversed, it was not difficult to discern individual well operations, particularly in outlying areas. During the flight it was explained by an official of the Rio Grande Oil Company that considerable valuable surveys had been made with the aid of this plane and additional work contemplated is expected to prove the plane as a most satisfactory investment.

During the course of the writer's flight some 30 California oil fields were visited, including Wheeler Ridge, Maricopa Flats,

Midway-Sunset, Elk Hills, Lost Hills, Kettleman Hills, Coalinga, Santa Maria-Orcutt, Summerland, Carpenteria, Elwood, Rincon, Ventura Avenue, Inglewood, Santa Barbara, Mesa, Dominguez, Athens-Rosecrans, Torrance, Signal Hill, Watson Tank Farms, Santa Fe Springs, and Montebello.

Upon leaving the airport at Glendale, California, the ship headed inland, flying north over the central California oil producing areas. The great height attained offered an unusual view of numerous groups of fields, affording a map-like effect that placed their location and outline definitely upon one's mind. For example, during a visit to the Kettleman Hills area, via automobile, it was somewhat difficult to visualize the extent and scope of this development, partly due to the ruggedness of the surrounding country and zigzagging roads that made it necessary to travel considerable distances to obtain a personal glimpse of developments. In an accompanying photograph, the reader can obtain some idea of what a panorama was unfolded during the flight over the Kettleman Hills area. From the air it was an entirely different picture than from the ground, showing the whole field at a glance in the form of a huge strip of hilly surface, literally dotted with derricks. In a number of instances, contrasts of this kind were drawn in the mind of the writer as he was whisked over this area at a speed of 120 miles per hour. The view of Signal Hill, accompanying this article, also presents a vivid conception of the activity that has accompanied developments there.

After reaching the northern limits of the inland oil fields, the plane headed toward the coast and followed the coast line down to Los Angeles, circling en route over Santa Barbara, Elwood, Summerland, Long Beach and thence over Los Angeles. Refineries, tank farms and ocean loading terminals formed a fitting surrounding to the coastal oil fields viewed on the return trip. The description of this air cruise would not be complete without mentioning the fact that a tasty luncheon was served aboard the plane at noon, further serving to amplify the comforts and conveniences of air travel in an oil company plane.

During this trip, it was not difficult to see that a considerable amount of drilling is still under way throughout California. If this bird's eye view was any indication it left little doubt about the activity that is going on in most of the prolific fields, especially at this time when there is so much talk about curtailment. Apparently, the drilling campaign in California is still far from a slump, which brings to mind the question, "What are they going to do with the oil—to say nothing of the gas?"

Although the oil companies of California are becoming decidedly air-minded, ground visits with oil company officials prove that they are not "up in the air" over the immediate outlook in prospect over the crude situation. Apparently, the fact that curtailment is imperative there has aroused no more than the casual feeling that the new gas law will solve all of the present difficulties. While it appears quite probable that daily production will be curbed to the extent of 100,000 barrels this month, as a result of the application of the new gas law, it is also apparent that there has been no noticeable curtailment in the amount of drilling. It was particularly noticed that drilling is in full swing at Santa Fe Springs, Long Beach, Huntington Beach, Elwood, Summerland and Kettleman Hills, with numerous wildcat operations in progress in many outlying areas. All the way up the coast of California, beyond Santa Barbara, and even far north of San Francisco, tests are being made in the hope of opening up a new oil area. On every hand, in the inland districts, one finds numerous wildcat wells attempting to pick up an extension of the pay that has apparently been defined in proven producing areas. This, coupled with the fact that deep sand possibilities are enormous in scope, makes it apparent that California represents a potential reservoir of oil that is bound to exert an influence upon the general situation for perhaps years to come. The problem of over-production in California is too great to expect a radical decline in that state through the advent of the new gas law. Whatever success is attained will come about slowly, although its immediate effect may result in a decline of 100,000 barrels.

The fact that one oil company after another is adopting aviation as a necessary aid to the performance of its business, exemplifies the progress that is an integral part of the American petroleum industry. Since there is little doubt about the future of aviation throughout the United States, it is fitting and proper that the petroleum industry should actively employ the plane for transportation as well as in mapping work and the study of surface formations of the earth. As time goes on, the airplane is becoming an accustomed form of travel by the American public, and it is therefore to the interest of the petroleum industry to not only set an example of its possibilities but also to become sufficiently familiar with their operation to enable a first-hand study of aviation motor fuel and lubrication. The oil man, it seems, is obligated to become air-minded in the interests of the future of his industry's welfare.

From the air Kettleman Hills appears well named

Progress Shown in Repressuring and Crooked Hole Work

By Wm. V. GROSS
Staff Representative

GALVESTON, Texas. — Corrosion of pipes and tanks, oil gathering pumps, hard-facing as applied to drilling bits, waste water disposal, counter-balancing, care of sucker rods, power rates, repressuring and straight holes were among subjects discussed at the Galveston meeting of the Texas-Louisiana-Arkansas district of the American Petroleum Institute's division of development and production engineering held September 5 and 6. Registrations of engineers, drilling superintendents and manufacturers' representatives at the meeting totaled 197, according to a list released by Carl Young, district secretary of the Institute. A number did not register.

Presentation of papers on the above subjects culminated work outlined by committees and sub-committees of the Texas-Louisiana-Arkansas district during the past year. Some of the papers were written primarily for the purpose of giving information; others for the purpose of eliciting discussion. According to the manner in which they were received and responded to, both types of papers presented at the Galveston meeting served their respective purposes.

It was decided that the next meeting of the Division will be held at Midland, Texas.

"Centrifugal vs. Reciprocating Pumps"

One paper which brought forth considerable discussion was that prepared by D. H. Levy of the Magnolia Petroleum Company of Dallas on "Centrifugal versus Reciprocating Pumps for Gathering Oil." It was the first paper presented after the meeting convened, and was given in the form of a prepared discussion.

Following this, "Problems and Progress in the Protection of Underground Pipelines Against Corrosion," a paper prepared by Dr. Gordon H. Scott of Dallas, research associate employed by the American Petroleum Institute to carry on a study of corrosion in connection with the Bureau of Standards, was presented. His paper divulged some of the findings made during the period he has been investigating corrosion. It developed from Dr. Scott's paper that certain methods of application of coatings to pipe lines and tanks have been both inefficient and wasteful, due to a chemical reaction of the soil with which they came in contact. The relative merit of field tests and field inspections of coatings were discussed in the paper. Pipe line coating was shown to be an economic problem and a method of solving it was suggested in the paper.

The third paper during the morning session of September 5 was that prepared by C. W. Metzger of Houston, sales engineer of Haynes Stellite Company, and W. A. Wissler of Long Island City, New York, research engineer of Union Carbide and Carbon Research Laboratory, on "Metallurgy of Hard-Faced Rotary Drill Bits." It was read by Mr. Metzger, who headed a subsequent discussion of the subject. The paper discussed the function of steel in the body of the bit, with special emphasis on proper working and heat treatment of the steel. The paper discussed the application of hard surfaces to bits and the setting of diamond substitutes in the hard-surfaced material. Mr. Metzger expressed the opinion that the only way to employ diamond substitute practically on a drilling bit was to set it in some hard-surfacing alloy. On the other hand, during the discussion subsequent to the paper's presentation, the opinion was expressed that diamond substitutes could be applied to the bit direct by application of this substance in powdered form. Harold W. Fletcher of Hughes Tool Company said the latter operation had been performed in a manner that proved its practicability. The Oil Weekly of September 6 carried the paper by Messrs. Metzger and Wissler.

Leading off the afternoon session of September 5 was a paper on "Methods of Waste Water Disposal" by S. W. Oberg of Houston, chief engineer of the Humble Oil & Refining Company. The paper had particular application to salt water disposal. Disposal methods classified and described in the paper were relegated to cavity wells, direct run-off to streams and the sea, seepage into the ground and evaporation, storage during dry season and running off into streams during high water or flood seasons. Results obtained from employment of the above methods in various fields were discussed and compared in the paper. Also a brief sketch of the organization and work of the Hardin County Salt Water Company, which is a community organization, having as its purpose disposal of salt water produced along with oil in nearby oil fields, was given in Mr. Oberg's paper. Discussion following presentation of this paper brought forth much information relative to activities in other sections of the country in an effort to get rid of surplus salt water.

Weighing and Counterbalancing Wells

W. C. Shutts, engineer, and B. L. Moore, electrical engineer, both with Humble Oil & Refining Company at Houston, presented a paper entitled "Weighing and Counterbalancing Wells" which brought forth some of the livest discussion of the day, as it dealt with a problem which has entailed considerable mechanical difficulty and expense for operators of pumping wells in the Texas-Louisiana-Arkansas division. The paper dealt with causes of sucker rod troubles, the effects of counterbalancing and the overall efficiency of pumping equipment. The paper brought out that through use of a dynamometer, the most efficient pumping motion, the effective length of plunger stroke and the correct weight of counterbalance could be determined. In connection with use of the dynamometer it was brought out that readings of this instrument sometimes would have to be corrected for temperature of the surface at the point at which the dynamometer was applied or attached. It is interesting to know that readings on the dynamometer have varied 9000 pounds during 24 hours when the load carried was the same during both readings. Temperature caused the difference.

Following the paper on counterbalancing was one on a closely allied subject, "Proper Care of Sucker Rods," by E. H. Reese of Dallas, engineer with the Atlantic Oil Producing Company. It summarized answers from Texas, Louisiana and Arkansas operators on sucker rod operation and maintenance. Although the paper brought out that rods were being handled with care to prolong life and prevent breakage, it pointed out also that operators are not being as precautious as they might to insure continuous operation of their pumping wells. Phases of sucker rod use discussed in the paper embodied: method of installation in the well, precautions against bending, use of protectors in crooked holes, methods of breaking and tightening joints when making up or breaking down a string of rods, protection of rod threads when rods are not in use, protection against inertia or impact loads, protection against damage while transporting rods and protection against corrosion. In connection with the protection of the rods against corrosion, it was pointed out by Stanley Durward of Dallas, engineer of Shell Petroleum Corporation, that the use of nickel alloy rods in wells in certain parts of West Texas would mean longer uninterrupted pumping service for the well. This rod, although not quite as strong and tough as the ordinary rod, is sufficiently strong for the work required

and has a much greater resistance to fatigue in West Texas crudes than the ordinary rod.

Power Rates

The meeting was called to order on the second morning for presentation of a paper on "Standardization of Electric Power Rate Structure for Drilling and Production," by Mr. Durward. The paper was a brief exposition of the many problems and limitations of a power company in distributing power. It contrasted the distribution of power to the distribution of petroleum products in such a way that illustrated the difficulty power companies would run against in attempting to effect an immediate simplification of the confusing existing rates. Last spring it was brought out in the meeting of the engineers in Dallas that they had no objection to the amount of money involved in most instances in meeting the power companies' rates, but that they did not understand exactly what they were paying for. The cry was for a simple rate form from the power companies that would allow the operator to know from the form of bill presented exactly what constituted the items of expense going to make up the total. Representatives of the power companies expressed the opinion at the Galveston meeting that none would be happier to see a simlified rate structure more than themselves, but that it was a very difficult matter to iron out without going into highly involved technical problems—problems which as yet have not been worked out to the satisfaction of the power companies. As a result of Mr. Durward's paper and subsequent discussion, which seemed to accomplish little in the way of concrete progress, it was decided to appoint a committee of engineers to work in conjunction with the power company representatives to see what further can be done about the establishment of a simplified form for billing oil companies using electric power in drilling and producing wells.

Committee Reports

After Mr. Durward's paper on rate structures, W. W. Scott of Humble Oil & Refining Company, Houston, chairman of the district's committee on production practice, summarized the committee's work on "Repressuring Practice" since March. Mr. Scott's report involved a reading of answers to a questionnaire sent out by the committee on the above subject, but was incomplete. Work being done by the committee is progressing and results are expected that will be of practical benefit to those engaged in repressuring work. A complete report of the committee's findings is under preparation and Mr. Scott expects to present this before the meeting of the American Petroleum Institute in Chicago this winter.

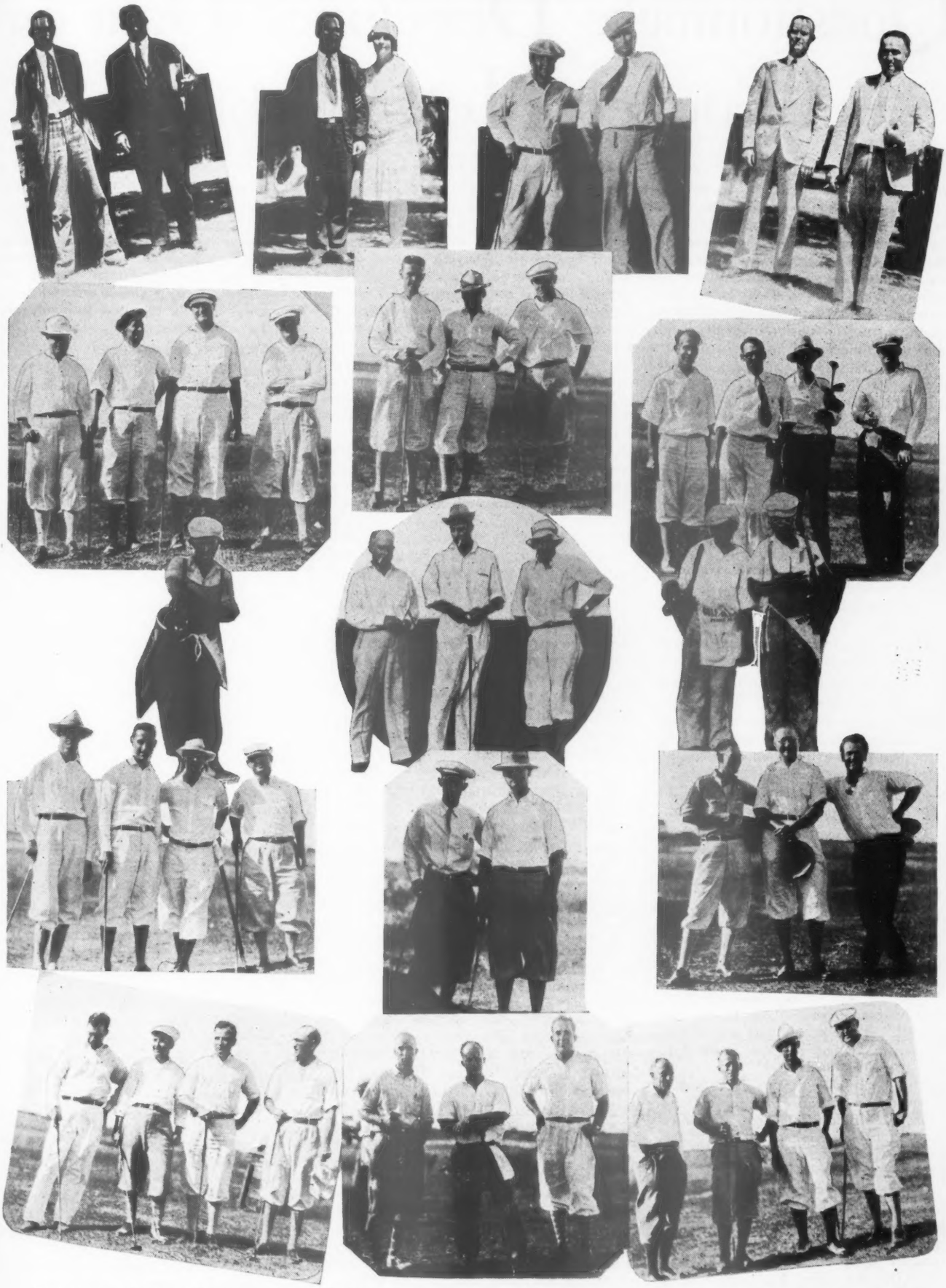
Melbert Schwarz of Houston, engineer with Rio Bravo Oil Company and chairman of the district committee on drilling practice, presented a comprehensive report on "Drilling Vertical Holes." The paper cited the work done by the district and national committees on drilling practice. Chief among the accomplishments of the district committee was the formation of a drilling report purporting to entail such information as would be of benefit in gathering data, a study of which would enable operators to eliminate the chances of crooked holes. Schwarz admonished engineers in the Texas-Louisiana-Arkansas district for not giving better support to the work of his committee, pointing out that whereas 150 questionnaires were sent out on straight hole drilling, only 10 replies were made. He made it plain that better co-operation would have to come from operators if the committee was expected to function to the fullest extent in formulating a method or methods for the elimination of crooked holes.

Roster of Attendance At Galveston Meeting

J. S. Abercrombie, J. S. Abercrombie Co.....Houston
C. W. Alcorn, Shell Petroleum Corp.....Midland
G. A. Alviset, D. & B. Pump & Supply Co.....Dallas
C. D. Alworth, Humble Oil & Refining Co.....Luling
E. R. Ames, Texas Creosoting Co.....Orange
W. C. Andrews, Cameron Iron Work.....Houston
F. M. Austin, Houston Lighting & Power Co...Houston
L. R. Bandy, Boykin Machine & Supply Co.....Houston
E. C. Barn, Broderick & Bascom Rope Co.....St. Louis
Frank Bass, Humble Oil & Refining Co..Hempstead, Texas
C. R. Bayless, Electric Engineering Co.....Houston
A. O. Behling, Humble Oil & Refining Co.....Corsicana
B. D. Bell, Humble Oil & Refining Co...Kingsville, Texas
H. W. Bell, Lion Oil Refining Co.....El Dorado, Ark.
L. A. Bell, Vacuum Oil Co.....Houston
Roy H. Bettis, Patterson-Ballagh Corp.....Los Angeles
E. W. Bisett, Skelly Oil Co.....El Dorado, Ark.
W. C. Blair, Texas Power & Light Co.....Dallas
Geo. G. Bloxsom, Humble Oil & Refining Co.....Houston
Harry Botsford, Soc. Dev. of Inter. Comb. Power
Titusville, Pa.
A. I. Brainard, Beaumont Iron Works.....Beaumont
M. O. Brink, Kennedye-Plumb Corp.....Spring, Texas
B. C. Broocks, Sun Oil Co.....Lockhart, Texas
Paul L. Brooks, Parkersburg Rig & Reel Co.....Ft. Worth
M. L. Brown, Sun Oil Company.....Dallas
J. I. Buford, Smith Separator Co.....Houston
S. W. Burbank, Allis-Chalmers Manufacturing Co...Dallas
A. A. Burrell, Cooper-Bessemer Corp.....Dallas
George E. Cannon, Humble Oil & Refining Co...Houston
D. A. Cant, Regan Sales Co.....Dallas
F. S. Carothers, Norvell-Wilder Supply Co.....Houston
E. L. Caster, Production Engineer.....Shreveport, La.
A. W. Childs, Reed Roller Bit Co.....Houston
Sid T. Childress, Rio Bravo Oil Co.....Houston
I. R. Coan, Shell Petroleum Corp.....Dallas
A. L. Cocke, Humble Oil & Refining Co...Sugarland, Texas
C. F. Contois, Jr., Gulf States Utilities Co...Lake Charles
J. M. Cooper, Gulf Production Co.....Houston
G. B. Corless, Humble Oil & Refining Co.....Houston
W. G. Crabs, Shell Petroleum Corp.....Luling
M. F. Cribbs, National Supply Co.....Houston
C. L. Cron, Frick-Reid Supply Co.....Ft. Worth
G. P. Crutchfield, Roeser & Pendleton, Ins..Albany, Texas
W. T. Cushing, Dearborn Chemical Co.....Houston
Fred W. Dallas, Kirby Petroleum Co.....Houston
G. O. Danielson, Chicago Pneumatic Tool Co.
Oklahoma City
W. A. Davis, Baker Oil Tools, Inc.....Houston
Robert S. Dewey, Humble Oil & Refining Co.....Houston
W. E. Dickinson, Sun Oil Co.....Beaumont
W. T. Doherty, Humble Oil & Refining Co.....Houston
Dick Donnell, Drone Humphrey Co.....San Angelo
C. E. Dowd, Frick-Reid Supply Corp.....Houston
Wm. C. Dreyer, Westinghouse Electric & Manufacturing Co. .....Dallas
E. Stanley Durward, Shell Petroleum Corp.....Dallas
Orion H. Echelhuser, Vacuum Oil Co...Lake Charles, La.
C. B. Edwards, Lufkin Foundry & Machine Co...Houston
H. L. Edwards, Humble Oil & Refining Co.....Houston
H. C. England, Sun Oil Company.....Brenham, Texas
A. L. Faber, Arkansas Power & Light Co., Pine Bluff, Ark.
A. S. Feld, Shell Petroleum Corp.....Dallas
H. W. Fletcher, Hughes Tool Co.....Houston
E. V. Foran, Fain-McGaha Co.....Wichita Falls
N. G. Fox, Arkansas Natural Gas Corp.....Shreveport, La.
Frank Gardner, Simms Oil Co.....Dallas
S. H. Gill, Gulf Production Co.....Houston
B. M. Givens, Sun Oil Co.....Mirando City, Texas
S. M. Gladnap..... El Dorado, Ark.
"Red" Griffith, D & M Machine Works.....Houston
Floyd B. Hall, Tidal Oil Co.....Tulsa
Rex Hamaker, Reed Roller Bit Co.....Houston
G. B. Hanson, Petroleum Rectifying Co.....Houston
R. D. Hardcastle, Resistcor Engineering Corp....Houston
Harvey Hardison, The California Co.....Midland, Texas
H. M. Harris, Humble Oil & Refining Co.....Houston
R. E. Harris, Guiberson Corp.....Dallas
V. H. Hayslip, Humble Oil & Refining Co.....Houston
Chas L. Henry, Lee C. Moore & Co.....Houston
L. K. Hildebrandt, Humble Oil & Refining Co....Houston
S. C. Hogg, Texas Power & Light Co.....Dallas
A. P. Holloway, Jones & Laughlin Steel Corp...Ft. Worth
E. W. Hough, Naylor Pipe Co.....Chicago
E. B. Hubbard, Gulf Production Co.....Houston
Wm. E. Hubbard, Humble Oil & Refining Co...Amarillo
B. E. Hull, Texas Pipe Line Co.....Houston
L. P. Humphreys, Oil Well Supply Co.....Houston
Yates Hunt, H. R. Hunt, Inc.....El Dorado, Ark.

(Continued on page 65)

Where Texas-Louisiana-Arkansas Golfers Met



Carl Young, National Secretary of the Division of Development and Production Engineering of the American Petroleum Institute won first prize in the golf tournament sponsored by the Houston Wildcats at the Galveston meeting

Questionnaire Developes Data on Crooked Hole Problem

GALVESTON, Texas. — Work done by the committee on drilling practice, under chairmanship of Melbert Schwarz, engineer of Rio Bravo Oil Company at Houston, offers some concrete data for minimizing the tendency toward drilling crooked holes in the Texas-Louisiana-Arkansas district of the American Petroleum Institute's division of drilling and production engineering.

In a report presented before a district meeting at Galveston, September 6, Schwarz read the questionnaire sent out to 150 operators in the district. Answers to these questions as they appear in extract from Schwarz's report for the committee's work, follow:

The responses to these questionnaires on the causes of crooked holes or straight hole drilling practice, may be summarized along the following lines:

Q. 1. Under what conditions are holes drilled vertical?

The answers to this question are tabulated in order of their rated priority.

1. Less weight on the bit and control of weight.
2. Less pump pressure with a slower rate of circulation.
3. Increased rotary speed, that is regulated to suit the formation being drilled, so as to avoid wobbling of the drill stem and bit.
4. Careful check of weight of mud and suspension qualities.
5. Perfect alignment of derrick and rotary.
6. Starting the hole straight.
7. Employing drillers sold on the straight hole idea.
8. Use of reamers and lace joints or long drill collars on the bottom of the drill string.
9. Heavy, rigid drill pipe.
10. Proper size of machinery.
11. Avoidance of rathole unless the drill string is equipped with reamers to guide the rathole in the center of the well bore.

In this connection it should be noted that several of the answers were of the opinion that reamers and lace joints were of a questionable advantage because of the increased fishing hazards that they offered.

Start Straight

At this point, I think it would be well to bring out some of the factors in regard to spudding in a vertical hole as probably very many of our holes are crooked at the start. After the rotary has been levelled and centered over the middle of the derrick with the blocks centered directly over the center of the rotary opening, it is generally conceded the best practice to employ some means of vertically guiding the kelly joint while spudding in. This can be accomplished by several means, either by frequently laying a spirit level against the kelly joint to check same for vertical or by using a ring just large enough for the kelly joint to revolve in and suspended on four wire lines equipped with turnbuckles and fastened to each of the four derrick legs. Using a spirit level on the kelly joint, these turnbuckles can be so adjusted that the guide ring holds the kelly joint absolutely perpendicular. The guide is adjusted for perpendicularity after each eight feet of hole is cut. This operation is continued for about the first 100 feet of hole or until a hard formation has been drilled through at least 50 feet in depth. With this much straight hole drilled, the kelly joint guide can be removed and a lace joint with either a roller bearing guide or a reamer guide used. However, it should be remembered that to get the best advantage from the roller bearing or reamer guide, these tools should be kept in that part of the hole drilled through hard formation as they would very probably tend to wallow out in softer formation and their advantage as a guide would then be lost.

Q. 2. Pressure on the bit with speed of rotation.

(a) What is the correct pressure to use for each type of formation drilled? Also, what is the proper speed of rotation?

The answers to this question show a fairly wide range of weight as applied to the bit with no distinction for the different types of formations drilled. One party has answered: "Pressure should be from 2000 pounds up but never to exceed 10,000 pounds and that when going from soft into hard formation practically all of the weight should be taken off of the bit only permitting enough weight on the bit to allow a full cutting surface." Another party answered that in using core bits only 2000 to 4000 pounds weight should be carried on the core head. However, he further advises that to assure a high percentage of core recovery, it is advisable to carry more weight on the core bit. From a summary of the answers, it thus appears that pressures between 2000 and 10,000 pounds are adequate for drilling the formations encountered in this area and that it is more or less up to the drilling superintendent or to his drillers to determine what, in their experience, is the best weight to be carried on the bit in drilling any particular type of formation. The consensus of opinion, however, is that there is no material advantage in increasing the weight on the bit as the bit becomes dull and it is much better practice to pull out and replace the bit. Also it is generally conceded that more hole and straighter hole can be drilled with less weight on the bit and increased rotary speed; however, the amount of increased rotary speed should not be such that it would tend to cause wobbling of the bit or of the drill stem in the hole.

(b) Effect of increased pressure and increased rotary speed on dipping strata.

The response in regard to this question is that in drilling through steeply dipping beds, it is advisable to increase the rotary speed and hold up the weight on the bit as in doing this the bit has a tendency to dig into the inclined formation instead of wobbling down dip.

Q. 3. Action of drilling mud as indicated by pumps.

(a) What is the proper weight of mud to use in drilling different formations?

Most of the answers to this question were in favor of a 10 to 12 pound mud; however, the weight of the mud carried is more or less dependent upon the formation being drilled and upon the consistency of the mud as a too heavy or a too thick mud would tend to build up the walls, causing tight places in the hole. Also in drilling from a soft to a hard formation a too thin mud will tend to wash out the soft formation and cause the bit to wobble down dip.

(b) Hydraulicing factors of drilling mud.

The answers to this question indicate that the hydraulicing tendency more pronounced in soft formations is due to the use of too thin mud and too great speed of circulation while drilling through soft formation or through a change in formations from soft to hard or hard to soft. There was no information given as to any definite amount of this hydraulicing action although we all know that it takes place to some extent.

Q. 4. Factors involved by the size of drill pipe in relation to the size of hole.

(a) What is the proper clearance between hole and drill pipe?

The answers to this question were rather indefinite and it was stated that the proper clearance should be determined by two factors: one depending upon proper circulation consistent with the size of the drill pipe used and the other dependent upon proper clearance for the use of fishing tools.

(b) Relation to change in size of drill stem after setting casing.

This point has very little bearing on the tendency of drill pipe toward drilling

(Continued on page 91)

XUM

Standard Drilling Report Form Suggested

AN extract from the report of Melbert Schwarz, chairman of the Texas - Louisiana - Arkansas district's committee on drilling practice for the American Petroleum Institute's division of development and production engineering, setting forth the purpose of a special drilling report form submitted for approval and discussion at the Galveston meeting of the Institute September 5 and 6, is given in the following matter:

The national officers of the Institute in June decided to have a symposium on straight hole drilling practice at the Chicago meeting in December. The national chairman on drilling practice, R. E. Collom, in conjunction with the members of the national committee on drilling practice, prepared a special drilling report form known as the A. P. I. Experimental Form for Straight Hole Drilling. It was, of course, understood that this would not be a panacea that would eliminate drilling holes off vertical but it would give us a fair average report on present drilling practices in the different parts of this district and a summarization of this data would point the way toward drilling straighter holes. This form is subject to revision and we are hoping we will be able to whip it into such shape that it will constitute a standard drilling report form. Until we do have a standard form for drilling reports, it will be quite hard to correlate information as the forms in present use vary so widely.

It is hoped that a systematic record of observations will be made on a number of drilling wells in each district. The summarized records will then be used by the respective district committee for study.

From this study, each district will prepare a report. When the reports from all districts are received, it is our intention to rearrange, consolidate and correlate the information so received into one general paper, which will be presented at Chicago. This report will be discussed at the Chicago meeting and after the meeting the report plus the discussion will be correlated and issued as a bulletin on straight hole drilling practice by the Division of Development and Production.

Please feel free to elaborate on this form in any way you deem advisable so as to bring out information on special conditions that may exist in your territory as well as on any steps taken to result in straightening of the hole.

At present we have some of these drilling report forms in operation in the Gulf Coast, in the interior salt dome area, in West Texas, and in the Balcones Fault Area, and we feel that this distribution should give us a fair idea of drilling conditions throughout Texas and Louisiana.

CABLE TOOLS _____
ROTARY TOOLS _____
_____ 19__

A. P. I. EXPERIMENTAL FORM FOR STRAIGHT HOLE DRILLING PRACTICE
(SUBJECT TO REVISIONS)
COMPANY NAME
DAILY DRILLING WELL REPORT

_____ FIELD
SECTION _____ TOWNSHIP _____ RANGE _____
_____ LEASE. WELL No _____

CASING RECORD						PERFORATIONS			CHANGES OF FORMATION																							
DEPTH	SIZE	WGT.	Thr'd.	MAKE	Landed or Cement'd	FROM	TO	Size & Kind	DEPTH TOP	DEPTH BOTTOM	Thickness	FORMATION	COLOR	HARDNESS Hard	HARDNESS M.d'm	HARDNESS Soft	TEXTURE Ca'rse	TEXTURE Med'm	TEXTURE Fine	WATER QUANTITY None	WATER QUANTITY Sm'll	WATER QUANTITY L'rge	WATER Dulp'r	WATER Salt	GAS SHOWING None	GAS SHOWING Sm'll	GAS SHOWING Good	GAS SHOWING L'rge	OIL SHOWING None	OIL SHOWING Sm'll	OIL SHOWING Good	OIL SHOWING Fl'w'g

	FIRST TOUR 12 A. M. TO 8 A. M.	SECOND TOUR 8 A. M. TO 4 P. M.	THIRD TOUR 4 P. M. TO 12 P. M.
1 DRILLING—REDRILLING SIDETRACKING—CLEANING OUT			
2 DEPTH OF HOLE AT BEGINNING OF TOUR	FEET	FEET	FEET
3 PLUGS OR BRIDGES	FROM FEET. TO FEET	FROM FEET. TO FEET	FROM FEET. TO FEET
4 CEMENT JOBS No. SACKS. HOW PLACED	SACKS	SACKS	SACKS
5 DIAMETER & MAKE OF DRILL PIPE	INCHES DIAM. MAKE	INCHES DIAM. MAKE	INCHES DIAM. MAKE
6 DIAMETER OF HOLE	INCHES DIAM. OVERSIZE	INCHES DIAM. OVERSIZE	INCHES DIAM. OVERSIZE
7 DIAMETER & LENGTH OF DRILL COLLAR	INCHES DIAM. LENGTH. FEET INCHES	INCHES DIAM. LENGTH. FEET INCHES	INCHES DIAM. LENGTH. FEET INCHES
8 SIZE & MAKE OF BIT	INCHES DIAM. MAKE	INCHES DIAM. MAKE	INCHES DIAM. MAKE
9 DEPTHS RUN	FROM FEET. TO FEET	FROM FEET. TO FEET	FROM FEET. TO FEET
10 TIME ON BOTTOM	HOURS MINUTES	HOURS MINUTES	HOURS MINUTES
11 SIZE & MAKE OF BIT	INCHES DIAM. MAKE	INCHES DIAM. MAKE	INCHES DIAM. MAKE
12 DEPTHS RUN	FROM FEET. TO FEET	FROM FEET. TO FEET	FROM FEET. TO FEET
13 TIME ON BOTTOM	HOURS MINUTES	HOURS MINUTES	HOURS MINUTES
14 IF CORED. DIAMETER & LENGTH OF CORE RECOVERED	INCHES DIAM. LENGTH FEET INCHES	INCHES DIAM. LENGTH FEET INCHES	INCHES DIAM. LENGTH FEET INCHES
15 SIZE & MAKE OF REAMER	INCHES DIAM. MAKE	INCHES DIAM. MAKE	INCHES DIAM. MAKE
16 DEPTHS OF RUN	FROM FEET. TO FEET	FROM FEET. TO FEET	FROM FEET. TO FEET
17 TIME REAMING	HOURS MINUTES	HOURS MINUTES	HOURS MINUTES
18 RATE OF ROTATION	REVOLUTIONS PER MINUTE	REVOLUTIONS PER MINUTE	REVOLUTIONS PER MINUTE
19 WEIGHT ON BIT	POUNDS	POUNDS	POUNDS
20 RATE OF CIRCULATION	GALLONS PER MINUTE	GALLONS PER MINUTE	GALLONS PER MINUTE
21 WEIGHT OF MUD	POUNDS PER CUBIC FOOT	POUNDS PER CUBIC FOOT	POUNDS PER CUBIC FOOT
22 TWIST OFFS	DEPTH OF TWIST OFF DEPTH OF HOLE	DEPTH OF TWIST OFF DEPTH OF HOLE	DEPTH OF TWIST OFF DEPTH OF HOLE
23 ANGULAR DEVIATION	DEGREES AT DEPTH OF FEET	DEGREES AT DEPTH OF FEET	DEGREES AT DEPTH OF FEET
24 APPARENT DIP OF CORES	DEGREES AT DEPTH OF FEET	DEGREES AT DEPTH OF FEET	DEGREES AT DEPTH OF FEET
25 CAUSE & AMOUNT OF LOST TIME			
26 DESCRIPTION OF OPERATIONS			
27 CASING RUN OR PULLED			
28 CONDITION OF HOLE			
APPROVED			
FOREMAN	DRILLER	DRILLER	DRILLER

Suggested Drilling Report to aid in correlating information on crooked holes

XUM

Faulting *Around* Salt Domes

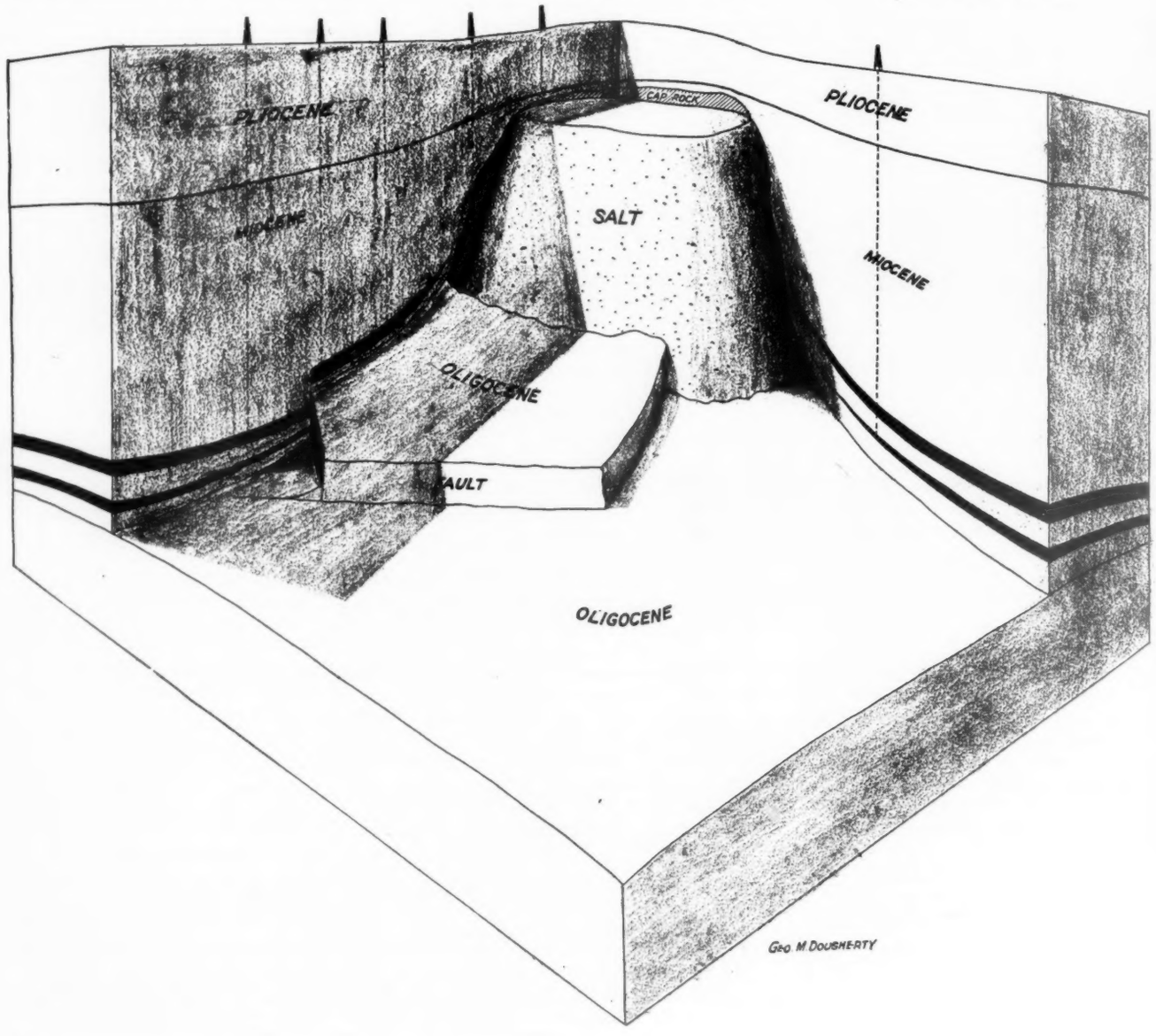
By JACK LOGAN
Staff Representative

DEVELOPMENT of oil fields around salt domes of the Texas and Louisiana Gulf Coast has revealed numerous irregularities and anomalies. One more or less frequent irregularity is the occurrence of faulting, around both shallow and deep domes.

The accompanying illustration, made by George M. Dougherty of Gulf Coast Engineering Company, Houston, and formerly of the geological department of Humble Oil & Refining Company, Houston, represents a section of a typical shallow Gulf Coast dome where faulting has occurred. This conception of the sub-surface conditions is based upon inferences drawn from various sets of well logs. It had been noted in various fields that offset wells (100 feet apart), sometimes would encounter the same strata at depths differing by as much as 150 feet. In those cases it was hardly reasonable to account for the great differences in the depths by regarding them as due to normal incline of the strata. The sands normally bend upward around a salt dome or plug, but in these exceptional cases noted above, the incline appeared too steep for a normal condition to exist. A logical explanation was that there had been a faulting, through which the upper part of various strata were abruptly raised above their normal position.

The accompanying illustration clearly presents such a theory of faulting. At the surface are shown derricks, and dashed lines leading downward from them indicate the positions of wells drilled to the oil producing sands. The heavy black sections sloping away from the salt mass represent the oil sands. To make the picture more clear, the sizes of the derricks and the thickness of the oil sands have been exaggerated. The dome was actually thought of as rising within about 800 feet from the surface of the earth. All of the productive sands shown in the illustration are of the Miocene age. During the formation of the salt dome, the mass of salt, according to the generally accepted theories, was thrust upward, causing a general upheaval of the strata lying over and around it. In that way the sands pic-

(Continued on page 91)

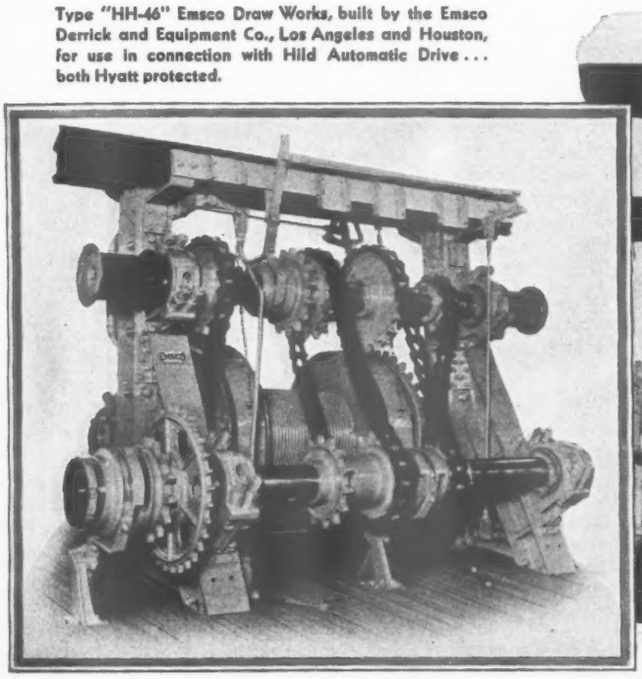


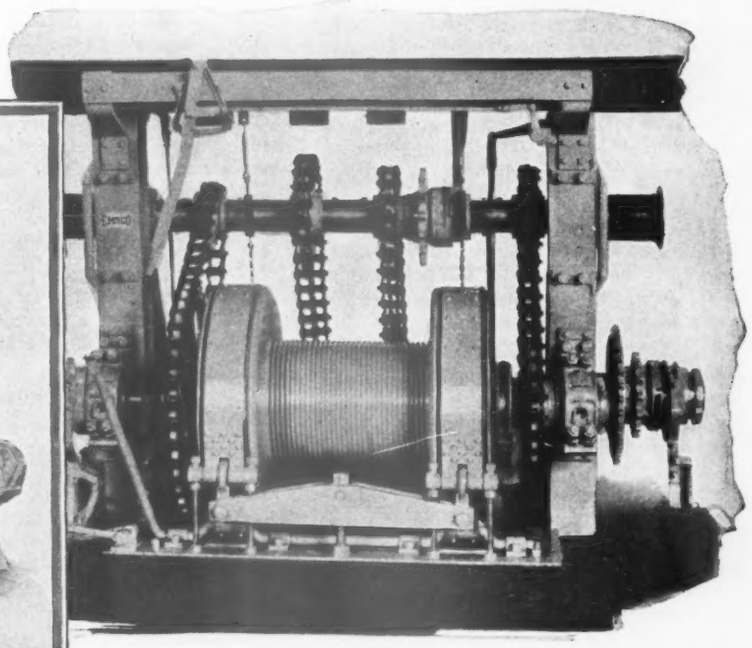
HYATTS...
on all shafts of EMSCO DRAW WORKS

Because drum shaft, line shaft and jack shaft carry the greatest burdens, Hyatt Roller Bearings were selected by Emsco for these important positions.

Hyatts keep shafts in true alignment. Wear and replacements are avoided. Annoying evils of maintenance and attention are minimized.

Type "HH-46" Emsco Draw Works, built by the Emsco Derrick and Equipment Co., Los Angeles and Houston, for use in connection with Hild Automatic Drive . . . both Hyatt protected.





Under heavy loads and the stress of constant starting and stopping, ordinary bearings would soon weaken and break down. The inherent ruggedness of Hyatts, however, withstands these gruelling tasks indefinitely, prolonging equipment life materially as they serve.

Rarely is Hyattized equipment laid up for repairs. Infrequent replenishment of lubricant is all that is necessary to insure years of frictionless, smooth-running performance.

Like Emsco, many other oil well equipment manufacturers are building the Hyattway to safeguard the machinery you buy.

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PRODUCT OF GENERAL MOTORS

Hyatt Roller Bearing with outer race cut away to show roller construction.

HYATT ROLLER BEARING COMPANY
Newark Detroit Chicago Pittsburgh Oakland

[SIXTH INSTALLMENT]

Heat Treatment *of* Steel

By HARRY PENNINGTON

Mechanical Engineer, Member American Society for Steel Treating; Member American Society for Testing Materials

Pyrometry

THE thermo-electric pyrometer is used almost exclusively in the measurement of temperatures in heat treating. Its base is the fact that two dissimilar metals generate a minute quantity of electricity when heated, the quantity, or rather, intensity being proportional to temperature.

Suitable means of measurement, such as the millivolt meter, is calibrated and a scale used showing millivolts, as well as temperature.

The two dissimilar metals, or the thermo-couples, are made of heat resisting alloys or metals, nickel and chromium being the basis of some of the former, while platinum is one of the metals.

For protection against furnace gases and vapors, which might oxidize couples, the couples are inclosed in tubes that are gas tight, that resist high temperature and that resist the fumes of the molten salt bath. The basis of these tubes is usually the nickel-chromium non-ferrous alloy, which melts at considerably higher temperature than heat treating temperatures and which is particularly resistant to oxidation and scaling. These tubes inclosed the couple, and for insulation at high temperature, a dielectric cement made into suitably formed insulators, separates the couple wires, and also prevents contact with the inclosing tube.

This is the business end of a pyrometer. In the circuit is also maintained a cold junction, which must be maintained at constant temperature — either by placing six to 10 feet below ground, where temperature variation is small, or by inclosing in a thermos bottle. The compensating type eliminates the cold end.

Pyrometers are of the indicating and recording type. Where records are necessary to follow a steel into the field with its heat treating record, the recording type is necessary for reference to the heating lines. Since only one couple can be recorded at one time on a recording instrument, where more than one couple is in operation, a separate instrument is required for each. A switch may be installed with this type of instrument for connecting the recording arm, to any pyrometer couple connected.

Where the indicating type is used, as many as 15 couples may be connected to a single instrument, and by throwing the switch, reading may be taken from any couple. A time-temperature curve may be plotted on cross section paper from the couples used in this type.

The cost of recording instruments is greater than that of the indicating instrument, and additional instruments for recording are necessary over that required for indicating only, but the extra cost of accurately kept records is well worth considering, especially where the steel parts being handled are large and expensive.

The heat treatment of steel for a new purpose, or the application of a different grade of steel to an old purpose, is sometimes a matter of comparison of results. Heat treatment depends upon results and the recording instrument furnishes a permanent record upon which satisfactory performance may be based.

Thermo-couples may be permanently fixed in position in a furnace and wired to the instrument at any distance away.

Case Hardening

Case hardening is the heat treating process of hardening the surface of low carbon plain or alloy steel. It is accomplished by surrounding the steel with a carbonaceous material — charcoal or bone black — in a box inclosing the whole, and heating for some hours to above the lower critical temperature. It may also be done in liquid salt bath.

The process depends upon the steel, the carburizing process and treatment after carburizing, the object being to produce a duplex steel having a high carbon case surrounding a low carbon core, so that when quenched, the case hardens due to the high carbon content, while the core, with its low carbon core, does not harden.

The steels of all the S. A. E. series are made in carburizing grade in which the carbon content, for small parts, ranges from 0.10 to 0.20, and for larger parts, 0.15 to 0.25. Some of the alloys increase certain properties, of which hardening power of the case and refinement of the core are important, together with freedom from distortion.

The case of a case hardened steel, having its carbon increased to 1.00 per cent or higher, takes extreme hardness when heated to above critical temperature of the case, then quenched and in parts where wear resistance is important, and where heat is not present, case hardened parts have found extended use, there being many thousands of parts made every day of this type.

Solid carburizing materials are bone black, charcoal made of the hardwoods, leather, coke and various compounds sold under trade names. Certain chemicals, such as calcium carbonate, barium carbonate and sodium carbonate are mixed with solid carbon materials in varying proportions from 20 per cent to 40 per cent, in some applications.

The cost of these compounds is not excessive — one of the best grades now being five to seven cents per pound, depending upon the quantity purchased.

Boxes into which the steel parts are packed with carburizing compound are made variously of cast iron, cast steel, pressed steel, and chrome-nickel-iron, or chrome-nickel without iron. The last named alloy possesses freedom from oxidizing and sealing at the higher temperatures involved in case hardening. Boxes of this material may be obtained in practically any size and shape.

Case hardening, or pack hardening, as the process is termed when charcoal is used, is accomplished at temperatures above the lower critical, and a usual temperature is 1600°F. The time of carburizing ranges according to the depth of case; six hours at 1600°F. in the box placing a thin case, while 18 to 24 hours makes the case thicker. Depth of case ranges from a few thousandths of an inch to one-sixteenth.

After carburizing in the box, the parts may be cooled in the box, when it is necessary in some steels, or the box may be emptied and the parts cooled more quickly, which is permissible with still other steels. Quenching from the box is never good practice.

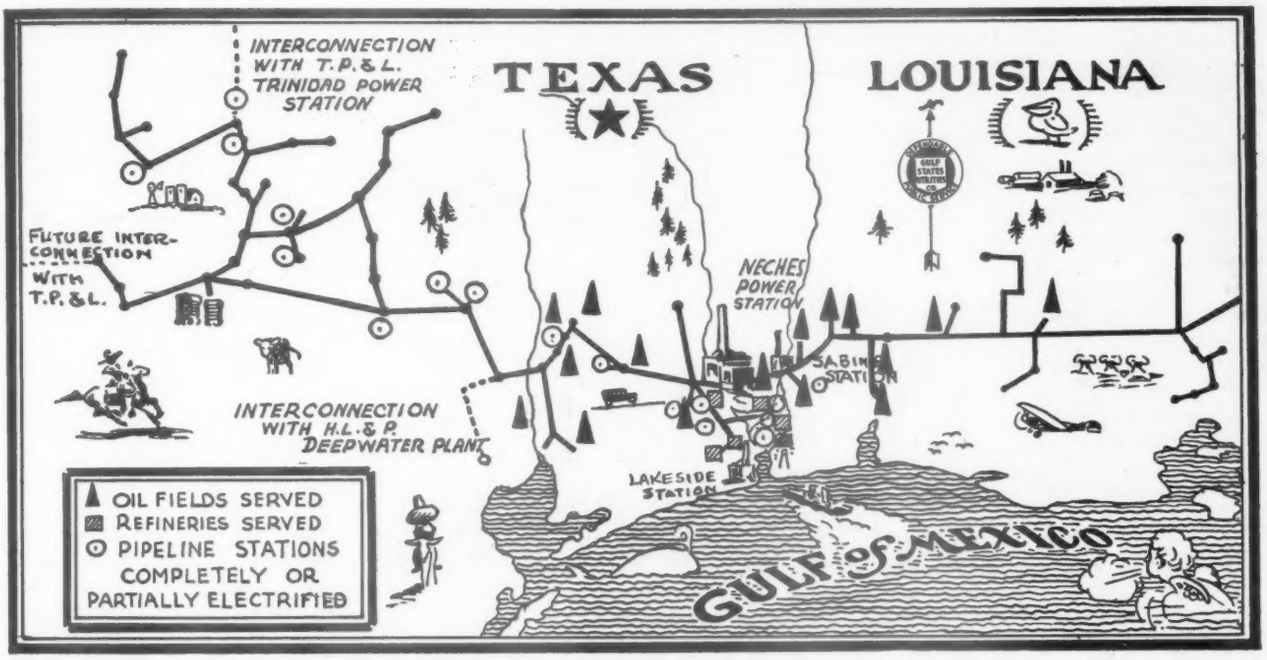
After cooling, the parts are heated again to above the critical temperature of the core, which temperature ranges from 1525° to 1625°F., and quenched in oil, which refines the core. This temperature, however, is somewhat too high for proper refinement of the case, consequently, the parts are again heated to just above the critical temperature of the case, which ranges from 1375° to 1450°F., and when quenched at this temperature, the case takes on its customary very fine, velvety grain, with extreme hardness. At the same time, the core has not been heated to its higher critical temperature and the internal core structure is therefore drawn at 1375° to 1425°F., materially toughening the core.

Next, the case may be too brittle due to its extreme hardness, when a slight draw of the case is necessary, which requires heating again to a low temperature, 300° to 400°F., to secure the desired hardness.

The process produces a part, such as a gear, or a piston pin, or a pair of rotary slips, with extreme surface hardness, for

XUM

ELECTRIC POWER PREFERRED



The use of Central Station Electric Power has steadily increased and a number of extensions to the present system are planned to serve the industry even more completely in this territory.

Gulf States Utilities Company

BEAUMONT, TEXAS LAKE CHARLES, LA.

UNDER EXECUTIVE MANAGEMENT OF STONE & WEBSTER INC.

Electric Power ANYWHERE with the CLARK GENERATOR UNIT

This compact unit is easily transported anywhere you like—to generate your own elertric current at low cost for operation and maintenance. Consists of Generator, 75 k.v.a., 480 v., 3-phase, 60-cycle, 400 R.P.M., direct connected to CLARK 4-cylinder gas or gasoline Engine of 90 brake H. P. at 400 R. P. M. See the Clark Bros. Company Display at the Exposition October 5th to 12th.

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OLEAN, N. Y. *Export Office:* 150 Broadway, New York City

Warehouses:	*Mid-Continent Sales Offices*	*California:*
Tulsa, Okla., McCamey and Sweetwater, Tex.; Artesia, N.M.	Tulsa and Fort Worth	Smith, Booth, Usher Company 228 S. Central Ave., Los Angeles

CLARK

resisting wear, backed up by a tough interior core, to resist fracture under sudden load.

There are other case hardening processes, one of which is cyaniding, or immersing in molten cyanide, ferrocyanide or cyanamid, held at definitely high temperature. The case, in this process is very thin, however, compared with the case produced by carburizing with charcoal.

Cyaniding lends itself to quantity production, because immersion in the molten bath heats the steel quickly, and carburizing takes place in a few minutes. The ring gear, in the rear axle of the Model T Ford is a cyanided gear, made and treated by this process in vast quantities. These are quenched in a quenching machine, which clamps the gear and floods it with oil while still hot, to prevent distortion.

The two processes outlined are based upon the penetration of carbon into the steel. In the carburizing box, gas is formed when the carburizing material is heated, and carbon from the gas penetrates the steel.

Using this as a basis, carburizing with natural gas has come into use, offering lower costs in quantity production, where a thicker case is desired than furnished by cyanide.

Practically the same process is used as in carburizing with solid carburizers; gas surrounds the steel in a tight case while the case and its steel content are heated. One type of gas carburizing furnace tumbles the parts while carburizing. At the high temperature involved, tumbling may be used for small parts, but larger finished parts are scored in the process.

Still another process of furnishing a hard case is nitriding, done in about the same manner as gas carburizing, except that another gas is used. This method furnishes an extremely hard case, at low heats.

In the oil field, case hardening lends itself to wear resistance in such parts as slips, all of which are case hardened, in rotary drive chains, in slush pump rods, pistons and followers, overhanging wrist pins, piston pins of gas engines, timing gears, tappets, slips for fishing tools, taper taps, reaming tools, drive bushings, tong slips and pins, and many other applications.

Rock bits of both the roller and cone roller type have case hardened cutters for resisting the heavy loads and shocks of drilling, while at the same time furnishing a very hard cutting edge. Pins and washers are also carburized, to furnish resistance to wear together with toughness. In this class of tool, the development of carburizing has been the means of drilling the hardest rock safely.

For some years, there has been a controversy over the merits of case hardened gears as compared with oil hardened gears. The merit of case hardened gears, as to resisting wear are undeniable, but the inner core, with its low carbon content, has far less strength than a higher carbon interior. The design of gears employs directly, the strength of material of which they are made, so that case hardened gears for the same duty, are larger than oil hardened gears, when computed on a strength basis.

But, on the basis of wear, the tooth load on a case hardened gear may be taken higher than on an oil hardened gear, for the surface of the oil hardened gear is not as hard. Hence, as a matter of fact, to resist wear, the teeth of an oil hardened gear may be made larger and wider than on a case hardened gear.

It is interesting to note that many manufacturers of automobiles have abandoned case hardened gears in favor of oil hardened gears on account of it being easier to maintain production schedules in oil hardened gears, for treatment of the latter is accomplished in far less time and at considerable less expense.

However, oil hardened gears, in automotive work have not shown the durability of carburized gears, particularly where heavy grades requires the use of the low speed gears, and in bus work, some manufacturers have gone back to carburized gears in the endeavor to reduce weight and cost and secure lasting qualities.

The design of gears as to size of tooth, width, allowable tooth pressure and pitch line speed, is more a matter of steel and heat treatment than of anything else. According to current gear formula, for steel cut gears, the width may be calculated at anything from say one inch to four inches wide, depending upon the allowable tooth pressure.

Allowable tooth pressure is a matter of hardness of tooth face and since carburized gears furnish a hard face, tooth pressure may be high in this type of gear. However, in oil hardened gears, with higher carbon content throughout, which harden throughout, certain alloys permit using the same with approximately the same hardness as carburized gears, although, the unit shock value is less in the latter type of gear. But, due to greater strength, the oil hardened gear has greater shock value.

As an instance of the capacity of gears, the writer cites a transmission, first designed for use in a four cylinder gasoline engine driven rotary drilling rig, developing about 50 brake horsepower at 1000 r.p.m. The gears are 1¼ inches wide and are made of S. A. E. 3115, carburized and heat treated after machining. The computations were made with standard carburized gear practice as a basis. But, the writer has successively increased the engine horsepower on this rig, with the original transmission, until now the same transmission carries 110 horsepower at the same engine speed, and during the five years service of this transmission, there has been no gear failure and no renewals. The gears run in oil, being fully inclosed, and the shafts are heavy and rigid, made of S. A. E. 3250, heat treated.

Heat Treatment of Steel Castings

Coming out of the mold without the grain refinement of hammering or rolling, steel castings are coarsely crystalline and weak in internal structure, but heat treatment serves to break up the coarse structure and make the steel homogeneous and stronger, although no steel casting can be made as strong as a hammered or rolled steel of the same analysis.

The greater number of steel castings are of such design that quenching is impossible. These are subjected to a simple anneal, which affects but little the elastic limit and tensile strength, but which increases ductility, setting up resistance to impact in a greater measure.

Gear blanks, when small enough, may be given the same treatment of the casting, as given to forged blanks, with material benefit, consisting of quenching once, or even twice, and then tempering to the required physical properties. This type of casting then develops strength of over 100,000 pounds.

Where the gear is large and has spokes, in usual designs, the gear rim may be separated from the spokes, or web and hub. The rim then may be treated as desired, without fracture, the teeth cut, and the rim then bolted or riveted on to the web. The writer has had in service for several years, gears made in this manner, with a low carbon alloy steel rim, carburized and hardened, that have given very satisfactory service under heavy stresses and sudden loads.

When a gear is cast with spokes, or web, there is likelihood of the spoke pulling metal away from the rim just where the spoke join the rim, due to shrinking of the spoke while cooling, which sets up a pipe inside of the rim, in the casting, which is usually disclosed while the gear is being cut. The teeth, at this point, are likely to break off. The composite gear, with separate rim, eliminates this difficulty, although a little more expensive than the solid gear.

Sprockets are subject to the same shrinkage and piping, but the pipes are seldom visible, for sprocket teeth are still used in the uncut condition.

But parts, such as rotary tables, bedplates, gear cases, brake drums, with large and uneven sections, have not as yet been successfully treated by quenching and drawing because of the danger of cracking in the quench.

Impact Value

Impact value, or toughness, is indicated in steel by its elongation and reduction, to a certain measure, but a more exact test may be made in an impact testing machine, one of which is shown in Figure No. 12. (Page 101, September 6).

This machine as shown, has a hammer arranged to fall through 180 degrees, and to strike a test piece of steel in its fall so as to break the steel. In falling, the hammer generates a definite amount of energy, which is recorded at the end of the fall when the hammer is in its lowermost position.

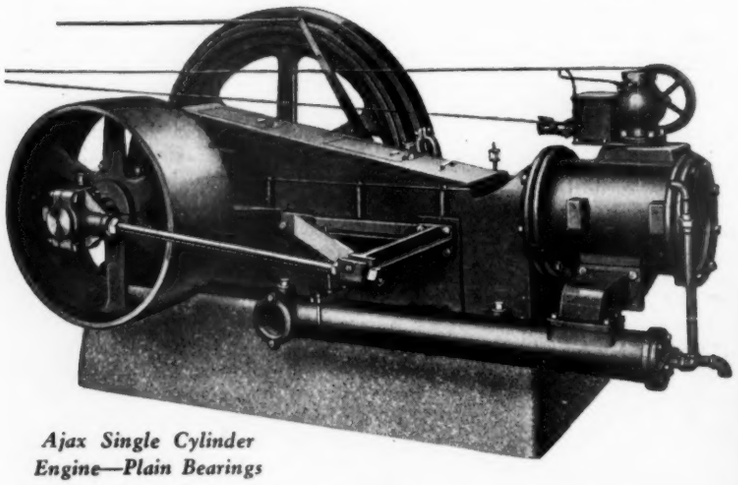
But, to break the test piece of steel, some of the energy of the hammer is absorbed, and the remaining energy is recorded when the hammer strikes at the end of its fall, showing the energy required to break the test piece. This energy is expressed in various ways in various machines, all being bases on foot pounds of energy.

Brittle steel breaks more readily than tough steel, and this machine readily dis-

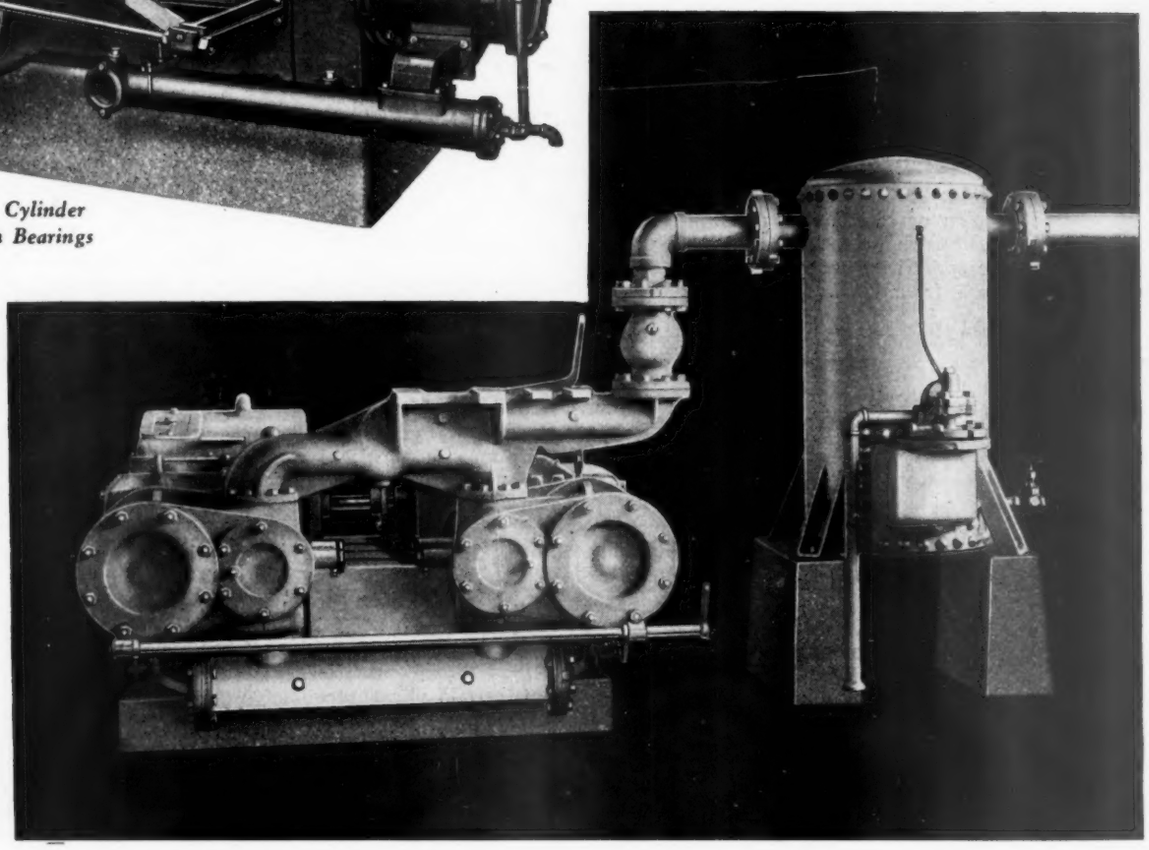
(Continued on page 107)

XUM

AJAX Single and Twin



Ajax Single Cylinder Engine—Plain Bearings



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There are several models of AJAX Engines for both rotary and cable drilling. They are known in every oil field in the world for efficiency and durability, and above all, for speed in drilling.

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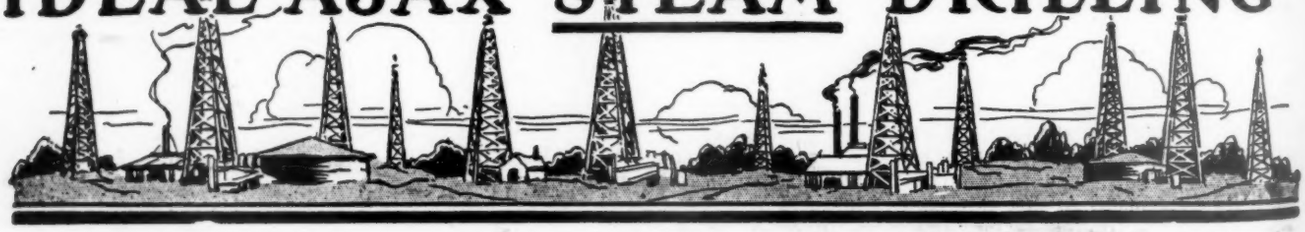

Both Establish Records

AJAX Single Enclosed Engine at Oklahoma City.

IDEAL-AJAX Roller Bearing at St. Louis, Okla.

THE new Ideal-Ajax with roller bearings used in rotary drilling at St. Louis, Okla., shows speed and dependability that made the crew say: "When you crack down on the throttle of this roller bearing engine she sure gets away."

The Ajax Single Enclosed drilling a deep well at Oklahoma City, getting oil at 6400 feet. The performance of the engine both in speed and economy is one of many similar records in cable drilling.

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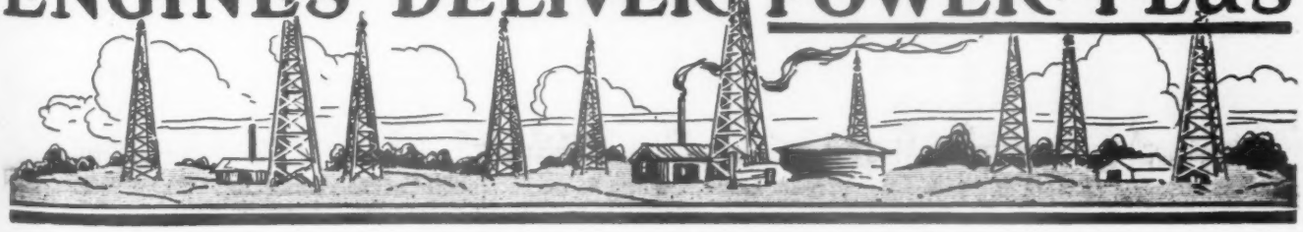

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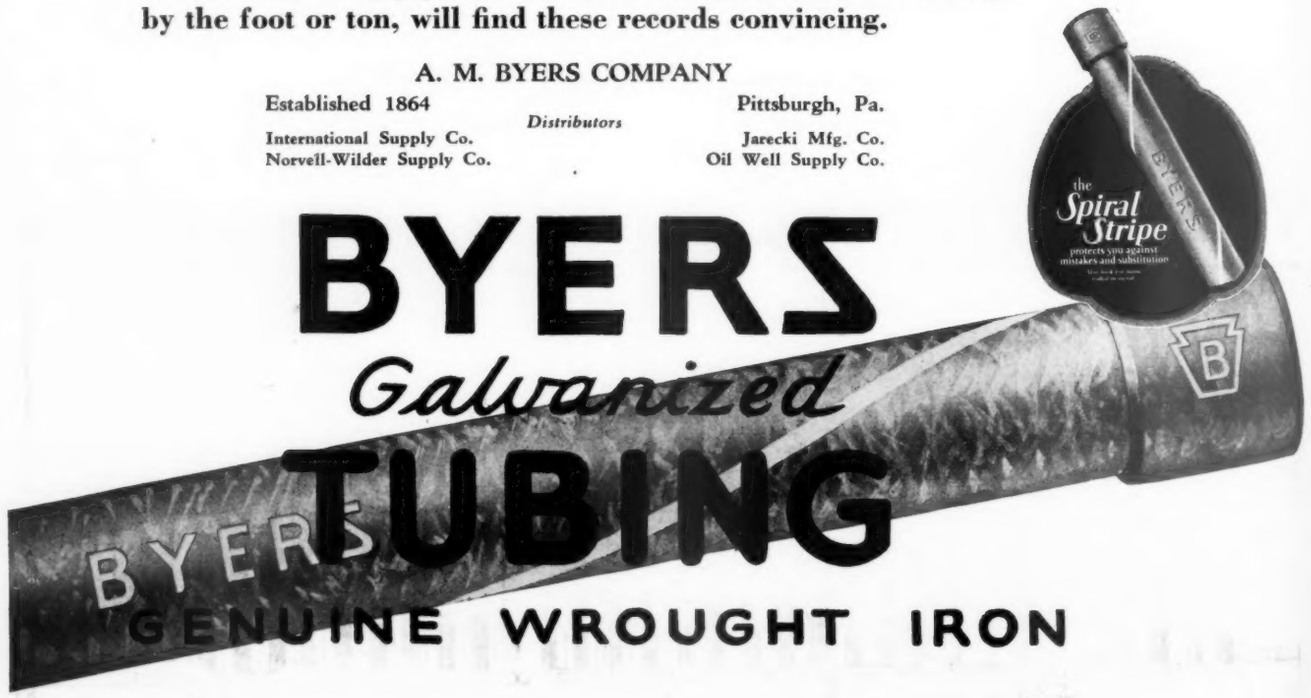


BYERS Galvanized TUBING

GENUINE WROUGHT IRON

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

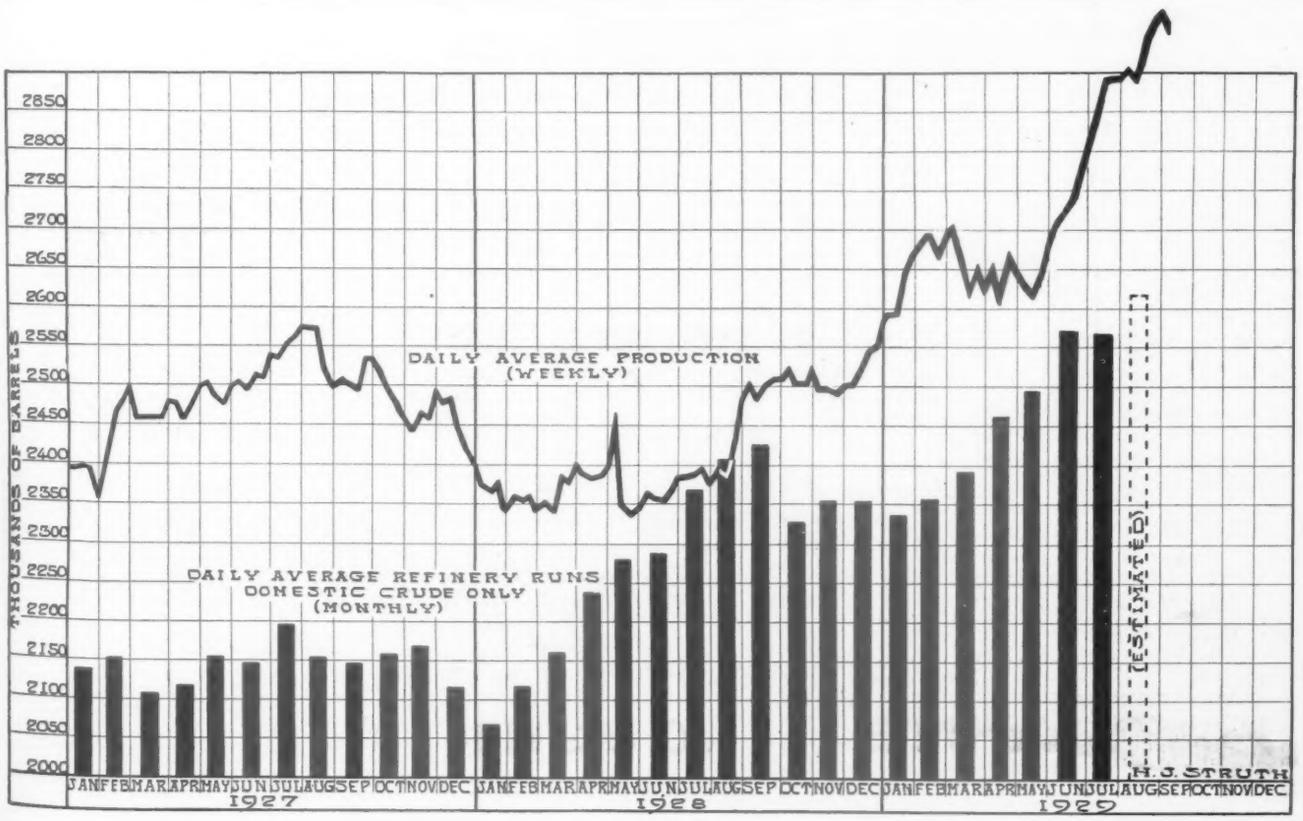
Natural Decline a Factor in Initial Failure of California Gas Laws

WHILE a decline in production last week of 17,100 barrels was due primarily to a further drop in California's output, the result cannot be attributed to the new gas saving law. As a matter of fact, the initial results of the new law were practically nil, making it apparent that California operators are inclined to a policy of testing the limitations of the new measure, rather than carrying out their professed willingness to abide by the principles previously agreed upon. As it is, the first week of the operation of the new law has proven vastly disappointing and invites no little criticism from the industry at large, as well as the general public.

The fact that quite a few companies in California have made little or no real preparation to curtail waste gas, as well as excessive oil production, leads to the conclusion that court action will be necessary to establish the legality of the gas saving law. This is indeed a most aggravating situation, in view of the favorable attitude taken by a majority of the operators prior to the effectiveness of the law. Although it was not expected that the immediate result would bring about a drastic decline in production, it was, nevertheless, supposed that active preparation would accompany the initial enactment of the apparently favored law, particularly in view of the long period of grace. It is still too early to know definitely what the outcome will be, but the fact remains that unless concerted action is taken by California operators, the law of supply and demand will mete out far worse punishment than failure to comply with the state law, proposed by the leading operators themselves. Regardless of whether the gas law is constitutional or not, does not relieve the industry of California of the responsibility of following sound economic principles. The situation resolves itself to one of self-preservation; and the industry of California must of necessity curtail oil production or face the prospect of demoralized markets.

The fact that a natural decline is evident at Santa Fe Springs, indicates that operators there are using this as an excuse for postponing forced curtailment.

DOMESTIC PRODUCTION AND REFINERY RUNS



In the meantime, drilling continues unabated and prospects of deep sand production loom menacingly on the horizon. Aside from the probability that the state of California will take steps to enforce the new gas law, the only encouraging factor now is the inability of operators to complete deep drilling wells rapidly enough to offset the natural decline of the upper zones at Santa Fe Springs. This lends some hope that the gas waste problem will become clarified to the extent that production curtailment will be enforced before another wave of flush production attends present deep sand efforts.

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH AVERAGE OF 1928

	Daily Av'ge Year 1928 (Bureau of Mines Data)	Daily Av'ge September 7, 1929 (A. P. I. Wkly Prod. Rept.)	Excess
Oklahoma-Kansas	786,585	865,000	78,415
Texas-Louisiana-Arkansas	849,205	1,022,150	172,945
California	633,831	854,200	220,369
Balance of United States	190,391	215,000	24,609
Total United States	2,460,012	2,956,350	496,338
Mexico-Central and South America	561,339	609,249*	47,910
Grand Total	3,021,351	3,565,599	544,248

*As of March 30, 1929—latest date available.

In view of the assurance which was imparted by a majority of the large California producers concerning the effectiveness of the new gas law in curtailing overproduction of oil, it is believed that some tangible evidence of this spirit will be manifested in the form of concerted action at an early date. If the companies that control the bulk of California's oil production fail to reduce their combined output sufficiently to effect a reduction in the state production curve of at least 100,000 barrels during this month, then all constructive efforts to stabilize the general situation will have been for naught.

Failure to curtail spells chaos for California as well as the industry at large, and the only hope of preventing a serious break in the crude market lies in the earnest efforts of the major companies, at least, to exhibit outward evidence of their intention to prevent the waste of gas and correct their uneconomic practices.

California's production seems on the verge of a steady decline, with curtailment out of the picture. The critical fields are not likely to jump as spasmodically as in the past and neither are they expected to register sharp drops.

Santa Fe Springs will show an irregular decline, unless a concerted effort is made to develop the lower Clarke zone. Despite much talk about saving waste gas in this troublesome field, little has been done by any single operator.

Major operators have placed a proposal in the hands of the state oil and gas supervisor, but no definite action has been taken. In the meantime, gas is being wasted almost as in the past. The state is handicapped by the lack of a large personnell to go rapidly into the separate fields and secure a shutdown. Much resistance is expected to be developed in at least two fields.

With consumption due for a decline, production must drop sharply to prevent a revision in prices. Oil is still being stored and tanks are becoming scarce. If the present overproduction continues another 90 days, the crude structure will probably not stand the strain.

There is a wide spread between the bid and ask prices on export gasoline, particularly that destined for the Atlantic seaboard, with shipments moving at around seven cents.

The fuel oil market has shown little improvement, although inquiries for this commodity have shown the seasonal increase.

Oklahoma

The Oklahoma City field has become a very disturbing crude oil market factor in the Oklahoma territory. With production more than 50,000 barrels per day and capable of making 75,000 barrels at the present time, the pipe line outlet of 55,000 barrels per day is unable to handle the oil. It is estimated that the field within another month will have a potential of 125,000 barrels per day, and that by the first of the year should have a recovery of 200,000 barrels per day. There are 113 operations in the field with others swelling the total.

However, Oklahoma's output was slightly lower last week, declining 350 barrels to a total of 735,400 barrels. Declines in various sections of the state were offset to some extent by gains in Oklahoma City and St. Louis pools.

The Greater Seminole fields have passed from the critical stage. Indications are that enough completions will be made to hold production only. However, since this district is still producing more than half of the state's recovery it should continue to play an important part.

Group 3 refined market is showing no change. Gasoline is slow, with U. S. motor selling anywhere from 7¼ to 7¾ cents per gallon. Most of the major companies are holding at 7¾ cents, however, some of the refiners are quoting it at 7½ cents with some available at 7¼ cents. The demand for distillates, gas and fuel oils is high. Kerosene is marking time, with refiners anticipating an increased demand as the result of the first rain in months in the territory.

Texas Production Declines

Production in Texas continues to be somewhat in excess of actual requirements, although last week's output showed a decline of 3850 barrels for the state. The Salt Flat field is apparently undergoing a natural decline and seems to be temporarily out of the picture as a market

Details on Critical Fields

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS:								
Hendrick	611	3,111,070	5,092	583	124,045	212[1]	2	10
Church & Fields	197	205,545	1,043	193	23,025	119	1	2
Gulf-McElroy	79	60,700	768	78	13,710	176	..	2
Yates	339	2,184,185	6,443	328	134,075	409[1]	7	13
TEXAS PANHANDLE:								
Gray County	463	326,875	706	448	95,275	213	8	84
OKLAHOMA:								
Oklahoma City	15	62,496	4,166	14	53,000	3,786	52	61
3 completions shut in, 2 producers not officially completed								
CALIFORNIA:								
Santa Fe Springs[2]	329	1,160,200	3,526	180	240,000	1,333	29	215

[1]Production partially pinched.
[2]Includes deep zone production only. For field total, add 210 wells and 27, 000 barrels.

factor. However, Gray County and Pecos County present an unfavorable picture, with the added menacing attitude being displayed by the Gulf Coast area. A decided reversal in conditions is now apparent in Texas and unless steps are taken there to control production, the market is in danger of a downward revision.

The gasoline market in the North and West Texas refining centers reflected the visitation of a cool spell throughout their respective domestic trade territories, and plant owners reported comparatively little buying of this commodity early this week. However, the change in climatic conditions served a good purpose in stimulating the price and demand for burning oils, with fuel oil and gas oils coming in for a favorable demand. The latter product is particularly scarce at 2½ cents per gallon, with many plants running behind schedule on deliveries. North Texas average grade of fuel oil is netting the plant owners an average price of 65 cents per barrel, while high cold test fuel oil in West Texas ranges in price from 37½ to 42½ cents per barrel.

U. S. motor gasoline in North Texas is plentiful at 6¾ cents per gallon.

The general tendency of major crude purchasers to pass up new field connections of the ordinary variety until a definite trend is taken by the crude market in general has paved the way for independent refiners throughout the interior of Texas to locate an adequate crude supply without paying bonuses above the posted price. Such a condition is particularly true in the Panhandle and parts of West Texas and Southwest Texas fields. In the Gray County section of the Panhandle, major pipe line companies have reached a limit on the runs and purchases, and some small producing units are offering to dispose of their flush oil at a fraction below posted price in order to get relief.

Independent refiners in the West Texas district are again having the refusal oil purchase. In the Howard-Glasscock County field, Cosden Pipe Line Company is taking on some of the connections surrendered by Humble Pipe Line Company, including about 1500 barrels daily production from the California Company's Roberts leases. Although crude in the latter area makes excellent gasoline, the fuel oil is unsuitable for northern shipments during cold weather, since it congeals at temperatures ranging from 50 to 60 degrees.

In summing up conditions as they appear at this time, it is apparent that the immediate future course of the crude oil market depends entirely upon localized effort of a comparatively few large producers in California, Oklahoma and Texas to effect reasonable limitations upon their respective producing activities. To say that this is impossible of accomplishment is merely a stall; whole-hearted, unselfish effort could quickly result in a more stabilized condition within the industry. If the professed desire to curtail overproduction does not materialize shortly, the industry cannot hope to avert a crash in the general oil market structure.

CRUDE RUNS TO STILLS, GASOLINE, AND GAS AND FUEL OIL STOCKS, WEEK ENDING AUGUST 31, 1929

(Barrels of 42 Gallons)

Following are American Petroleum Institute figures showing refinery crude runs, gasoline stocks, and gas and fuel oil stocks, for the week ended August 31.

District	Per Cent Potential Capacity Reporting	Crude Runs to Stills	Per Cent Operated of Total Capacity Reporting	Gasoline Stocks	Gas and Fuel Oil Stocks
East Coast	100.0	3,579,000	90.2	4,104,000	8,418,000
Appalachian	88.3	616,400	85.5	867,000	775,000
Ind., Ill., Ky.	98.7	2,127,500	93.6	4,687,000	3,442,000
Okla., Kans., Mo.	79.5	1,895,300	80.3	2,435,000	4,665,000
Texas	89.5	3,957,900	90.5	3,765,000	12,762,000
Louisiana-Arkansas	96.9	1,297,900	76.1	1,791,000	5,389,000
Rocky Mountain	93.4	485,400	55.8	1,803,000	936,000
California	94.9	4,871,400	87.3	11,781,000	107,397,000
Total Week August 31	92.9	18,830,800	86.2	31,233,000	143,784,000
Daily Average		2,690,100			
Total Week August 24	93.5	18,965,100	86.2	32,397,000	143,301,000
Daily Average		2,709,300			
Texas (Gulf Coast)	100.0	3,052,900	93.1	3,036,000	9,665,000
Louisiana (G. Coast)	100.0	895,300	82.5	1,512,000	4,538,000

More West Texas Buyers Adjust to Temperature

San Angelo, Texas.—The majority of the West Texas crude purchasing companies in the West Texas district have announced intentions of falling in line with the Humble Oil & Refining Company in buying crude throughout the district on a basis of 60° temperature. The above company's crude purchases in the district, beginning September 1, 1929, were placed on a temperature basis, and Magnolia Petroleum Company was the first to fall in line. The Shell Petroleum Corporation is reported to have set September 10 as the effective date in adopting the plan, while Atlantic Pipe Line Company and Southern Pipe Line Company have announced intentions of doing likewise October 1.

The Texas Company and Gulf Production Company have held off on taking advantage of the Texas Railroad Commission's rule that permits crude purchasers to compute oil acceptances from lease and storage tanks on a basis of 60° temperature, as outlined in Rule 9, Circular No. 10. The Cosden Oil Company, which is buying about 300,000 barrels of Howard-Glasscock County crude monthly, has delayed action, as is the case with the Coltex Refining Company, an important purchaser in Mitchell, Howard and Glasscock Counties.

West Texas crudes as a whole are 25° or more normal temperature for nine months out of the year. The commission's rule permits crude purchasers to deduct one per cent for each 25° temperature below or above 60° Fahrenheit. On this basis, a producer delivering 5000 barrels of 85° temperature oil to a pipe line company from lease or storage tanks would only get credit for 4950 barrels.

Except in determining the corrected gravity, oil produced in North, Central West Texas and the Panhandle is not penalized for above normal temperature. However, artificially heated oil is often run on a temperature basis. Since the oil produced in the Panhandle is normally cold, and climatic conditions likewise over one-half the year, the producers in this oil area would probably benefit by the enforcement of the temperature order.

Yates Seep Oil Recovery Shows Decline

San Angelo, Texas.—Seepage oil production in the Yates field dropped 2100 barrels in daily average output during August after having registered sharp gains during the past 11 months that oil has been finding its way to the surface on the Pecos River bank, in ditches, trenches and "grass root" wells. During August the recovery was placed at 203,744 barrels, or an average of 6572 barrels daily, thus boosting the total recovery to 1,017,706 barrels. The high mark on production of migratory oil was reached in July when a total of 268,931 barrels, or an average of 8675 barrels daily, was credited to the field by Umpire Ray W. Richmond, with Continental Oil Company recovering 224,917 barrels.

The plugging of several large wells and re-cementing of casing in others in the field proper has caused this drop in migratory oil recovery. Continental Oil Company, which recovered a total of 699,836 barrels between February 22 and close of August, averaged 5776 barrels daily in August, as compared to 7255 barrels in July. Grayburg Oil Company, which has the river bed lease, has recovered 227,693 barrels from the bank of the stream and by skimming the water, while Mid-Kansas Oil & Gas Company and Transcontinental Oil Company has recovered 90,177 barrels to close of August from shallow wells, ranging from 25 to 50 feet in depth. The latter interests plugged a big producer to help curb the oil waste.

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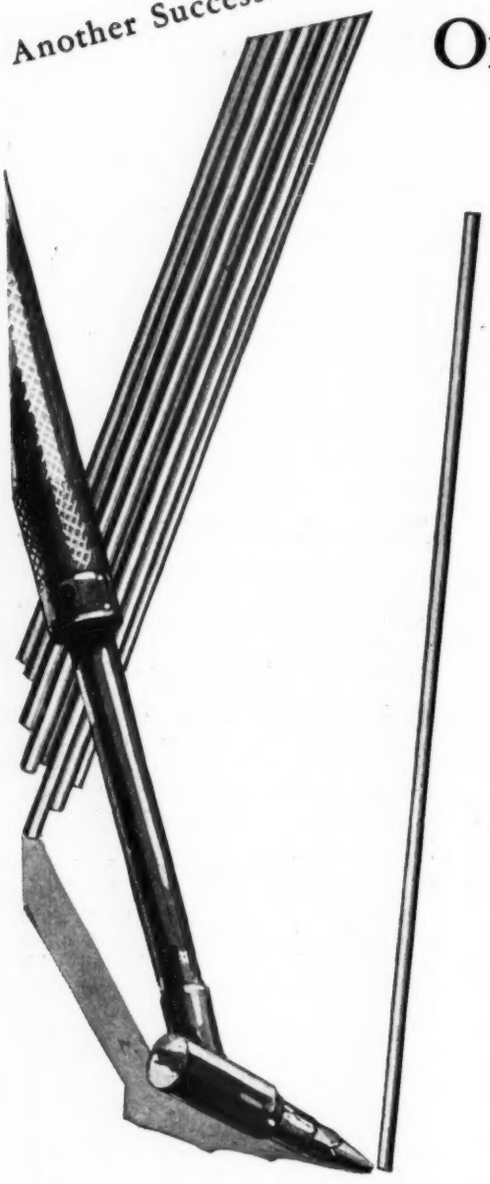

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Oxweld No. 21 High Strength Bronze Welding Rod requires less time to apply and less oxygen and acetylene. It makes high strength bronze welds easier and cheaper.

This new rod is easily worked. It can be more rapidly tinned on a steel or cast iron surface. It has a low melting point—melts and freezes quickly and evenly. Remelting has no effect on either the quality or appearance of the finish weld.

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STOCKS IN 38 CITIES

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July	722,050	124,250	718,950	148,150	35,750	68,650	122,000	74,250	874,850	2,888,900	89,555,250
August 3	730,050	126,650	733,600	151,900	35,700	67,800	125,100	75,500	862,300	2,908,600	20,360,200
August 10	724,400	128,200	737,950	148,850	36,000	67,300	125,100	75,000	853,200	2,896,000	20,272,000
August 17	724,000	127,300	748,150	152,200	36,650	67,150	126,300	78,000	881,800	2,941,660	20,591,620
August 24	727,000	128,650	758,200	154,600	36,350	66,700	127,500	79,100	887,900	2,966,350	20,764,450
August 31	735,750	128,300	766,000	157,150	36,500	66,150	128,200	80,500	874,900	2,973,450	20,814,150
Sept. 7	735,400	129,600	761,450	159,150	35,550	66,000	135,000	80,000	854,200	2,956,350	20,694,450
Increase	.....	1,300	.....	2,000	.....	.....	6,800	.....	.....	.....	.....
Decrease	350	.....	4,550	.....	950	150	.....	500	20,700	17,100	119,700

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Sept. 7	Aug. 31
Carson County	9,850	9,500
Gray County	100,000	100,400
Hutchinson County	25,300	25,400
Wheeler County	850	800
Others	900	1,000
Total	136,900	137,100

NORTH TEXAS

Archer County	19,600	19,850
Burkburnett	9,200	9,000
Electra	12,000	11,950
Iowa Park-KMA	5,150	5,050
Montague and Cooke Cos	18,600	17,900
Wilbarger	33,150	32,850
Others	800	800
Total	98,500	97,400

WEST CENTRAL TEXAS

Brown County	8,500	8,400
Callahan County	4,100	4,100
Coleman County	7,600	7,400
Eastland-Desdemona	7,200	8,150
Jack County	3,950	3,600
Palo Pinto County	400	450
Shackelford County	11,000	11,050
Stephens County	6,700	6,750
Throckmorton County	700	600
Young County	8,200	8,250
Others	700	700
Total	59,050	59,450

WEST TEXAS

Crane-Upton Counties	45,900	46,100
Crockett County	2,300	2,150
Howard County	36,500	37,550
Jones County	3,300	3,300
Mitchell-Scurry Cos.	2,600	2,500
Pecos County	133,800	133,600
Reagan County	17,500	17,600
Winkler County	128,000	131,100
Others	3,000	2,850
Total	372,900	376,750

EAST CENTRAL TEXAS

Boggy Creek	2,600	2,650
Corsicana-Powell	7,600	7,700
Currie	400	400
Mexia	5,700	300
Nigger Creek	300	5,800
Richland	350	350
Wortham	1,000	1,050
Total	17,950	18,250

SOUTHWEST TEXAS

Dale	500	450
Laredo District	10,600	10,150
Luling	11,450	11,600
Lytton Springs	1,000	1,000
Somerset	1,700	1,700
Salt Flat	43,900	45,850
Others	7,000	6,300
Total	76,150	77,050
Ttl Texas outside Gulf Coast	761,450	766,000

TEXAS GULF COAST

Barbers Hill	22,550	22,300
Batson	1,300	1,300
Big Creek	2,950	3,850
Blue Ridge	2,400	2,600
Boling	1,350	1,350
Damond Mound	600	600
Goose Creek	5,600	5,750
Hull	8,700	9,000
Humble	9,000	9,750
Orange County	2,800	2,700
Pierce Junction	15,200	13,500
Raccoon Bend	8,400	8,350
Saratoga	1,100	900
Sour Lake	2,700	2,600
South Liberty	5,250	5,300
Spindle Top	23,800	24,200
Sugar Land	11,600	11,050
West Columbia	6,300	6,200
Washington Co.	2,100	2,000
Others	4,000	3,700
Total	137,700	137,000
Texas Total	899,150	903,000

OKLAHOMA

Asher	11,550	11,200
Carr City	11,450	11,600
Logan Co.	17,000	19,000
Braman	4,000	4,050
Blackwell	3,700	3,750
Hubbard	1,800	1,800
Thomas	900	900
Tonkawa	9,100	9,100
Garber	5,200	5,050
Burbank	18,450	18,700
Osage (outside Burbank)	26,000	26,000
Cushing	17,000	17,700
Yale Jennings	7,000	7,000
Davenport	1,350	1,350
Bristow Slick	21,900	21,400
North Okmulgee	12,250	12,250
Lyons Deaner	8,450	8,450
Cromwell	8,100	8,100
Papoose	3,300	3,300
Wewoka	4,550	4,550
Seminole	33,050	33,200
East Seminole	7,600	7,700
Bowlegs	32,300	32,800
Searight	12,000	12,100
Little River	79,100	79,500
Earlsboro	88,550	89,500
Duncan District	7,750	7,700
Graham	4,300	4,250
Fox	1,350	1,400
Healdton	13,000	12,900
Hewitt	7,950	7,900
Scholem Alechem	12,950	13,000
Pearson	1,150	1,150
St. Louis	77,900	67,100
Allen	24,000	23,400
Maud	11,950	12,550
Mission	25,100	25,300
Oklahoma City	52,450	47,650
Others	60,900	61,400
Total	735,400	735,750

CALIFORNIA

Santa Fe Springs	265,000	284,000
Long Beach	168,000	169,000
Huntington Beach	44,000	44,000
Torrance	12,600	12,600
Dominguez	9,300	9,500
Rosecrans	6,500	6,500
Inglewood	24,000	24,000
Midway-Sunset	68,000	68,000
Ventura Avenue	62,000	62,000
Seal Beach	42,000	44,000
Elwood-Goleta	20,500	20,500
Kettleman Hills	6,000	4,500
Others	126,300	126,300
Total	854,200	874,900

KANSAS

Greenwood County	20,900	20,850
Florence-Covert	1,000	1,000
Peabody-Ebling	3,400	3,450
Eldorado-Towanda	13,000	13,050
Augusta-Fox Bush	3,050	3,050
Rainbow Bend	1,050	1,050
Russell	3,200	3,100
Churchill	7,350	7,350
Oxford	4,150	4,400
Sedgwick	36,500	35,200
Others	36,000	35,800
Total	129,600	128,300

NORTH LOUISIANA

	Sept. 7	Aug. 31
Homer	3,850	3,900
Haynesville	4,950	4,950
Caddo Light	9,150	9,600
Caddo Heavy	3,300	3,200
DeSoto-Red River	3,100	3,550
Elm Grove	500	550
Bellevue	650	600
Cotton Valley	2,300	2,400
Urania	6,350	6,400
Pleasant Hill	1,100	1,150
Others	300	200
Totals North Louisiana	35,550	36,500

LOUISIANA GULF COAST

Bayou Boullion	100	150
East Hackberry	1,600	2,500
Hackberry	2,250	2,400
Edgerly	750	750
Evangeline	2,000	2,100
Lockport	3,200	3,450
Sorrento	200	200
Sulphur Dome	6,000	3,250
Sweet Lake	50	50
Vinton	4,000	4,000
Others	1,300	1,300
Total Louisiana Gulf Coast	21,450	20,150
Louisiana Total	57,000	56,650

ARKANSAS

El Dorado	4,650	4,600
Champagnolle	6,300	6,350
Smackover Light	6,000	6,050
Smackover Heavy	45,750	45,850
Stephens	1,000	1,000
Nevada	1,000	1,000
Lisbon	1,200	1,200
Others	100	100
Total	66,000	66,150

MOUNTAIN STATES
WYOMING

Salt Creek	35,100	35,200
Grass Creek	2,350	2,250
Elk Basin	850	850
Big Muddy	2,250	2,200
Lost Soldier	3,950	3,850
Rock River	2,350	2,450
Lance Creek	200	200
Oregon Basin	5,850	5,900
La Barge	2,300	2,300
Others	4,250	4,200
Total	59,400	59,400

MONTANA

Cat Creek	1,400	1,400
Sunburst	6,950	6,750
Pondera	2,700	300
Others	50	50
Total	11,100	11,200

COLORADO

Moffats (Craig)	1,000	1,250
Fort Collins	2,050	2,100
Florence	750	950
Others	2,250	2,350
Total	6,050	6,650

NEW MEXICO

Table Mesa	150	100
Artesia	850	850
Hogback	250	100
Rattlesnake	1,800	1,800
Others	400	400
Total	3,450	3,250
Totals Mountain States	80,000	80,500

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.	135,000	128,200

PRODUCTION SUMMARY

East of Rockies	2,022,150	2,018,050
Total U. S.	2,956,350	2,973,450

CRUDE OIL PRICE QUOTATIONS

Revised September 11, 1929

EASTERN STATES
(Effective August 16, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.30
Bradford District Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.25
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	2.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.75
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.90
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.80
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	60
Keister (Pennsylvania)	1.20

CENTRAL STATES
(Effective May 21, 1929)
Posted by Ohio Oil Co.

Illinois	1.75
Indiana	1.57
Lima	1.80
Plymouth	1.28
Princeton	1.75
Waterloo	1.35
Wooster	1.90

WESTERN KENTUCKY

All grades	1.83

MID-CONTINENT
(Effective May 21, 1929)
Magnolia Petroleum Company

Under 26	.70
26 to 26.9 gravity	.75
27 to 27.9 gravity	.85
28 to 28.9 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.15
32 to 32.9 gravity	1.25

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT
(Effective May 20, 1929)
Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company

25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

PANHANDLE
(Effective May 20, 1929)
GRAY COUNTY
(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company)

Below 29 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.00
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.10
33 to 33.9 gravity	1.15
34 to 34.9 gravity	1.20
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.30
37 to 37.9 gravity	1.35
38 to 38.9 gravity	1.40
39 to 39.9 gravity	1.45
40 to 40.9 gravity	1.50
41 to 41.9 gravity	1.55
42 to 42.9 gravity	1.60
43 to 43.9 gravity	1.65
44 and above	1.70

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.90
30 to 30.9 gravity	.95
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.05
33 to 33.9 gravity	1.10
34 to 34.9 gravity	1.15
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.25
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.35
39 to 39.9 gravity	1.40
40 to 40.9 gravity	1.45
41 to 41.9 gravity	1.50
42 to 42.9 gravity	1.55
43 to 43.9 gravity	1.60
44 and above	1.65

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.90
32 to 32.9 gravity	.95
33 to 33.9 gravity	1.00
34 to 34.9 gravity	1.05
35 to 35.9 gravity	1.10
36 to 36.9 gravity	1.15
37 to 37.9 gravity	1.20
38 to 38.9 gravity	1.25
39 to 39.9 gravity	1.30
40 to 40.9 gravity	1.35
41 to 41.9 gravity	1.40
42 to 42.9 gravity	1.45
43 to 43.9 gravity	1.50
44 and above	1.55

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

CALIFORNIA CRUDE OIL PRICES AT THE WELL
(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood† Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14-9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18-9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19-9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20-9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21-9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22-9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23-9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24-9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25-9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26-9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27-9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28-9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29-9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30-9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31-9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32-0	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
32-32-9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34-9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35-9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36-9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37-9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38-9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39-9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40-9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

(See Page 46)

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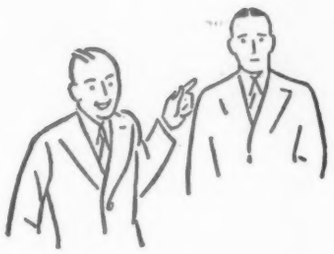

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CRUDE OIL PRICE QUOTATIONS (*Continued from Page 44*)

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	.70
25 to 25.9 gravity	.74
26 to 26.9 gravity	.78
27 to 27.9 gravity	.82
28 to 28.9 gravity	.86
29 to 29.9 gravity	.90
30 to 30.9 gravity	.94
31 to 31.9 gravity	.98
32 to 32.9 gravity	1.02
33 to 33.9 gravity	1.06
34 to 34.9 gravity	1.10
35 to 35.9 gravity	1.14
36 and above	1.18

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

MARKHAM
The Texas Company
(Effective May 20, 1929)

All grades	$1.00

LULING

All grades	.90

NORTH AND CENTRAL TEXAS
(Effective May 21, 1929)
Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.85
25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

SOUTH TEXAS

Mirando	.90
Salt Flat	1.25

GULF COAST
(Effective May 21, 1929)

Grade "A" all companies	1.30
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.18
26 to 26.9 gravity	1.21
27 to 27.9 gravity	1.24
28 to 28.9 gravity	1.27
29 to 29.9 gravity	1.30
30 to 30.9 gravity	1.33
31 to 31.9 gravity	1.36
32 to 32.9 gravity	1.39
33 to 33.9 gravity	1.42
34 to 34.9 gravity	1.45
35 to 35.9 gravity	1.48
36 to 36.9 gravity	1.51
37 to 37.9 gravity	1.54
38 to 38.9 gravity	1.57
39 to 39.9 gravity	1.60
40 and above	1.63

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

WYOMING-MONTANA
(Effective May 21, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.65
Grass Creek	1.65
Rock Creek	1.40
Lost Soldier	1.05
Lance Creek	1.68
Mule Creek	1.20
Notches	.65
Big Muddy	1.43
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA
(Effective May 24)

Sunburst	$1.75
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA
(Effective May 21, 1929)

Oil Springs	2.27
Petrolia	2.20

LOUISIANA-ARKANSAS
(Effective May 22, 1929)
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	$1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 gravity and above	1.85

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	.90
28 to 28.9 gravity	.94
29 to 29.9 gravity	.98
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.06
32 gravity and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	.85
24 and above	1.00
Bellevue	1.30
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Calion	.75

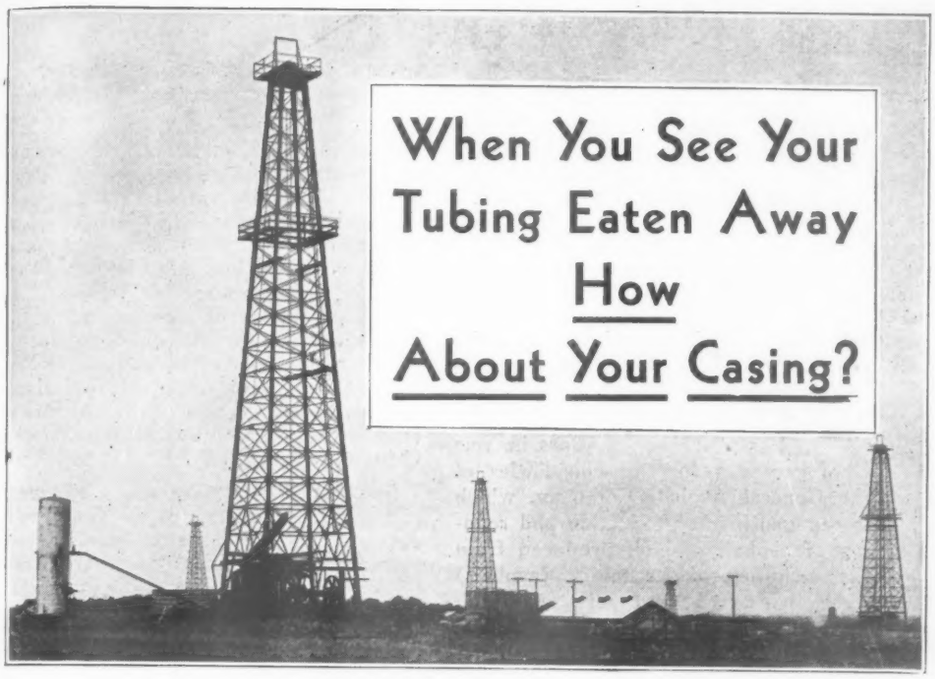
IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(Barrels of 42 Gallons)

	Week Ended August 31	Week Ended August 24
AT ATLANTIC COAST PORTS—		
Baltimore	252,000	259,000
Boston	135,000	.....
New York	1,135,000	"A" 975,000
Philadelphia	174,000	"A" 65,000
Others	86,000	148,000
Total	1,782,000	1,447,000
Daily Average	254,571	206,714
AT GULF COAST PORTS—		
Galveston District	.....	.....
New Orleans and Baton Rouge	177,000	"A" 108,000
Port Arthur & Sabine District	.....	.....
Tampa	.....	.....
Total	177,000	108,000
Daily Average	25,286	15,429
AT ALL UNITED STATES PORTS—		
Total	1,959,000	1,555,000
Daily Average	279,857	222,143
Daily Average Four Weeks Ended	253,500	251,071

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 Gallons)

	Week Ended August 31	Week Ended August 24
AT ATLANTIC COAST PORTS—		
Baltimore	78,000	157,000
Boston	97,000	.....
New York	391,000	"A" 351,000
Philadelphia	115,000	"A" 119,000
Others	.....	.....
Total	681,000	627,000
Daily Average	97,286	89,571
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	681,000	627,000
Daily Average	97,286	89,571
Daily Average Four Weeks Ended	79,071	86,893
DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS IS AS FOLLOWS—		
Gasoline	529,000	627,000
Kerosene Distillate	152,000	.....
Total	681,000	627,000

"A"—Revised.



When You See Your Tubing Eaten Away How About Your Casing?

When inferior tubing corrodes, it is usually a warning that, sooner or later, water will trickle through corroded casing walls to cause more grief. Protect yourself from such troubles by using Reading 5-Point Casing and Tubing, made of time-tested, corrosion-resisting Genuine Puddled Wrought Iron.

Long life is puddled into Reading 5-Point Tubing and Casing—filaments of silicious slag, a substance as rust-free as plate glass, guard the pure iron from corrosion. Reading 5-Point Pipe is the only wrought iron pipe double welded—it is insurance against leaky joints, splits, galled threads and crystallization.

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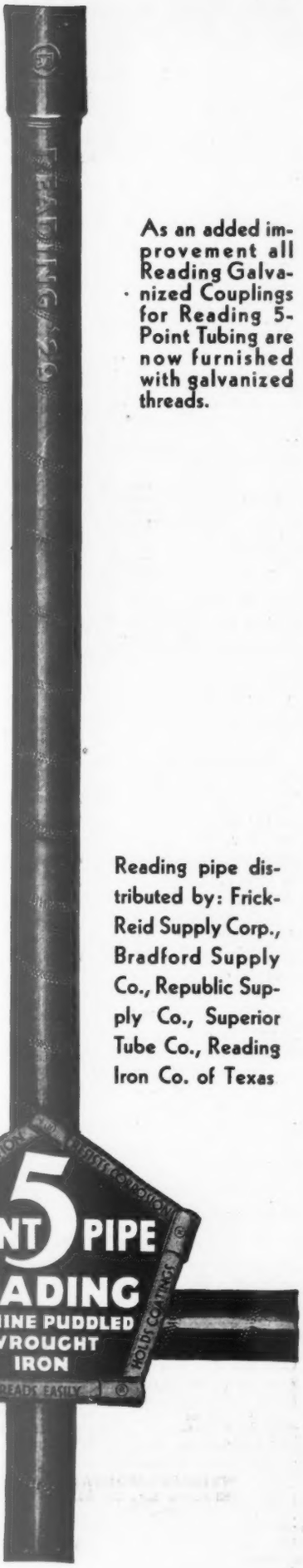


As an added improvement all Reading Galvanized Couplings for Reading 5-Point Tubing are now furnished with galvanized threads.

Reading pipe distributed by: Frick-Reid Supply Corp., Bradford Supply Co., Republic Supply Co., Superior Tube Co., Reading Iron Co. of Texas

GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS RANGING FROM ⅛ TO 20 INCHES

PERSONAL MENTION-MEN YOU KNOW

Frederick A. Sutton, geologist for the Standard Oil Company of Argentina, arrived in New York aboard the Steamship "Voltaire" on August 21, and, after spending a week in the metropolis, continued on his way to Utah and California points where he will spend his vacation. He has served four years in Bolivia and northern Argentina, and expects to return to Buenos Aires at the conclusion of his holiday.

R. V. Whitman, superintendent for Creole Petroleum Corporation (Standard Oil Company of New Jersey) in eastern Venezuela, is visiting in New York City while on leave from Maturin.

L. F. Hegbom, auditor for Venezuela Gulf Oil Company of Maracaibo, is spending his vacation in New York City.

A. C. Davidson of Shreveport is preparing to sail from New York aboard steamship "Caracas" on September 18 to commence another two-year tour of duty as master mechanic for Creole Petroleum Corporation at Maracaibo, Venezuela.

Gordon S. Nees, branch manager of the Petroleum Rectifying Company in West and Northwest Texas, has recently been appointed sales representative for his company in Texas, Arkansas and Louisiana, with office in Ft. Worth, Texas.

R. R. Forster, field superintendent for the Simms Oil Company in the Corsicana-Mexia district, has been placed in charge of the company's field operations in the Manford pool, near Luling, Texas. Simms Oil Company and Penn Oil Company are joint owners of the discovery well, with the former in charge of operations.

John A. Ritter, petroleum engineer for the Sun Oil Company, Dallas, has been to Point Arena, California, for an indefinite period in connection with a wildcat operation the company has under way there.

The 1930 meeting of the American Association of Petroleum Geologists will convene at New Orleans March 20-22, it was announced by J. Y. Snyder, Shreveport, president of the association. The tentative selection of New Orleans has been confirmed by the executive committee, Mr. Snyder said. J. P. D. Hull, business manager of the association, was in Shreveport September 7 en route to New Orleans to start preliminary plans for the convention. While there he discussed various details of association work with Mr. Snyder. Committee appointments for the convention will be announced soon.

Texas Company Sends Geologists to Colombia

Wm. J. Millard and Robert E. King are en route from New York to Bogota to undertake a geological survey of The Texas Company's holdings in Colombia. "Bill" Millard is one of the pioneers of South American oil operations, and is well known and highly regarded throughout the Carribean territory. For a number of years he was chief geologist for the subsidiaries of the General Asphalt Company, which is engaged in the production and refining of asphalt and oil produced from the vicinities of Bermudez (asphalt) Lake, in eastern Venezuela, and Pitch Lake, in Trinidad, B. W. I. During the period 1926-28 he was chief geologist for Trinidad Oil Fields Operating Company, Ltd. During the first half of the current year he made a survey of The Texas Company's acreage in eastern Venezuela.

Robert E. King was formerly connected with the Texas Bureau of Economic Geology.

The Texas Company is one of several American companies which own extensive acreage in Colombia, where a revival of activity is expected to follow the enactment of petroleum legislation now pending. Readers of The OIL WEEKLY will recall that a new oil law was drafted with the aid of an International Advisory Commission which convened at Bogota during April and May, and that it represents a change from the radical policies which have marked the trend of Colombian legislation during recent years.

Wm. J. MILLARD

Charles L. Lockett, South American representative of The International Derrick & Equipment Company, sailed September 7 on the S. S. Suriname for Maracaibo, Venezuela, stopping enroute in Columbia. Mr. Lockett has been in the states for his vacation.

He has been the representative of International Derrick & Equipment Company in Venezuela and Colombia for the past year, prior to that time representing his company in the Mid-continent and Rocky Mountain divisions.

Geo. D. Stevens, who was a member of the geological staff of the Gulf Production Company for a number of years and more recently with the Bob Goodrich Interests of Houston, has joined the Cranfill-Reynolds Company, and will have headquarters at Houston.

Ralph J. Reed, chief engineer of the Union Oil Company of California since 1918, has resigned, following a total service of more than 20 years, having expressed a desire to take an extended rest before announcing his future plans. Reed is especially well known in association circles, taking an active part in the standardization program of the A. P. I. He was national chairman of the special committee on standardization of steel tanks for oil storage and recently completed a lengthy report on the findings of the committee.

C. P. Parsons of Duncan, Oklahoma, branch of Halliburton Oil Well Cementing Company, and K. Bolton of the firm's Houston office, were visitors at the Gulf Publishing Company's Houston office this week. Bolton is on his way back to Duncan following the meeting of the Texas-Louisiana-Arkansas division of the American Petroleum Institute's division of development and production engineering in Galveston, September 5 and 6.

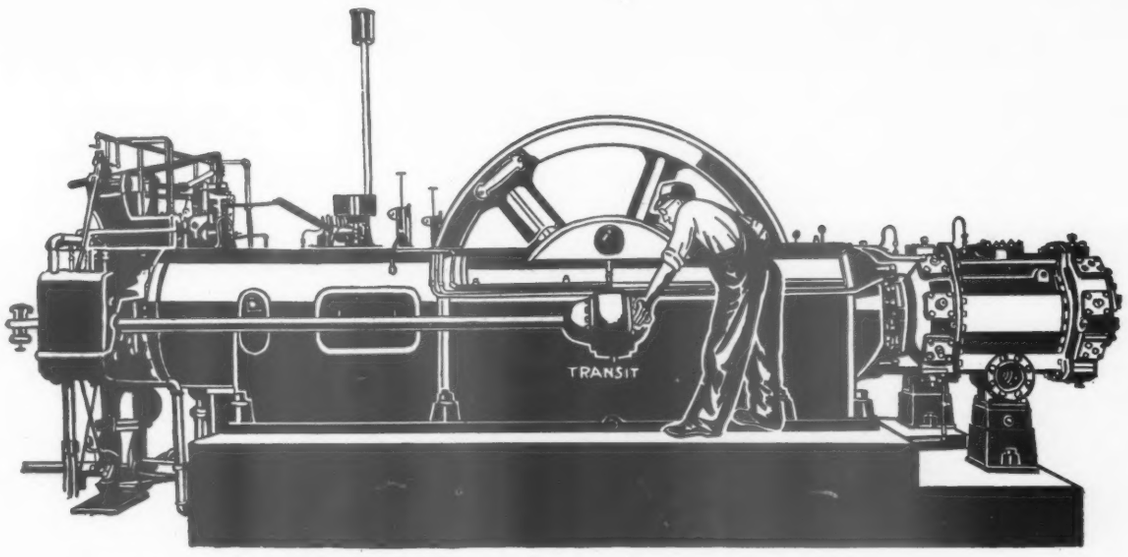
R. W. Dallas, independent operator, has returned to California after an extended business trip to Texas fields.

A. B. Stander, geologist, of Wichita, Kansas, but formerly in the employ of several of the larger oil companies in the Mid-Continent, has returned to Tulsa to become associated with the Peters Petroleum Corporation.

Ed C. Pfenning, manager of the Joplin Gas Company, has been appointed director of the Community Chest board of Joplin.

R. Leidy, former superintendent of distribution at the Wichita Gas Company, has been promoted to operating superintendent of the Hutchinson Gas Company, succeeding R. C. Brosius, recently promoted to manager of the Fort Scott Gas Company.

TRANSIT



TRANSIT 17x24″, Twin, Model 26, 170 H.P., 180 R.P.M., Gas Engine with compressors

Here *is* Something:

Confirming by test a well established fact, Messrs. George A. Goodenough and John B. Baker in their scientific paper, "A Thermodynamic Analysis of Internal-Combustion Engine Cycles," Bulletin 160 of the University of Illinois state that "a lean mixture gives a higher efficiency than a rich mixture."

The difficulty with gas engines has been to cut the gas down to the last notch without backfiring.

Here is an engine with a mixing arrangement that will enable you to adjust the mixture so lean that the explosion pressure is no higher than the compression pressure—and the engine will then burn the mixture without backfiring.

This Means Economy

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Oklahoma-Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Oklahoma City's Rising Output Gets Official Action

TULSA. — Increasing production in the Oklahoma City field has made it very urgent that operators get together on some plan of proration of production. This issue will in all probability be decided this week when a hearing on the case will come before the State Corporation Commission. The present daily handling capacity is aprpoximately 55,000 barrels per day as compared with the peak output of slightly more than 64,000 barrels made last week.

According to the petition filed with the State Corporation Commission, the pool will have a potential of 125,000 barrels per day by October 1. Today the field could probably produce 85,000 barrels per day if everything was opened up. By the first of the year it is likely that production might reach 200,000 barrels per day. This figure is arrived at from a study of the large number of proven locations already in the region and allows a good decline in production from the present wells. In other places in this issue of The Oil Weekly the pool is not rated quite so highly, but the readjustment of figures is due to several later developments.

Last week approximately 30 new tests were announced, with most of them due to commence work at once. This raised the number of operations in the field to better than 135. Proving up new territory by recent completions has been the cause for the increased work in the field. The new work also means that there will be no cessation of drilling during the period of proration.

The present plan of proration, which may or may not be adopted, is to call for a complete 30-day shutdown of all producing wells. Before the expiration of the 30 days operators would be asked to meet with the State Corporation Commission again to decide whether to continue the proration. The plans also call for all drilling wells to shut down 30 days or any length of time that producing wells are shut in. Indian Territory Illuminating Oil Company filed the petition stating that there was an overproduction and an inability of pipelines to handle the oil produced.

Field Gets Biggest Well

Gauging more than 14,000 barrels in 24 hours against a 450-pound back pressure, the Indian Territory Illuminating Oil Company, Foster Petroleum Corporation and Cromwell-Franklin Oil Company's Fuzzell 1, SW NW Section 19-11-2w, sent the output of the field to a new peak of more than 64,000 barrels per day. The gauge on this well is the largest that has been turned in by any well, although the same companies' Bertha Johnson 1, on the southwest side of the field, was rated higher. The latter well has never had an opportunity of showing what is actually could do. It is rated at 20,000 to 25,000 barrels per day, but inability of pipelines to care for the oil and the force of sand in cutting the connections has kept it well pinched.

The new Fuzzell well is located east of the central part of the field. It was cemented at 6521 feet, after drilling out the plugs and when bailing it commenced flowing at 11 a. m. September 6. The first hour it gauged 796 barrels, the second 886 barrels and was then pinched for storage. The first 21½ hours it gauged 10,080 barrels against 900 pounds back pressure through a two-inch bean. The top of the lime was found at 6020 feet with the bottom of the hole at 6521 feet. The initial gas flow of 50 million feet has settled off to 12 million feet. So strong was the gas pressure when it blew in that considerable damage was done to the separators.

Second largest producer in the field is the Indian Territory Illuminating Oil Company, Foster Petroleum Company, Cromwell-Franklin Oil Company's Trosper 1, C SE NW Section 13-11-3w, which is making 8500 barrels. Next in size is the Shell Petroleum Corporation's Petty 1, NW NE Section 30-11-2w, gauging 8100 barrels.

Wirt Franklin's Lowery 2, C E½ W½ NW Section 12-11-3w, new mile north extension well completed 10 days ago, is producing 6300 barrels daily. This well is also responsible for much of the new work.

Five other wells are due for immediate completion, most important of which perhaps is the Hall-Briscoe and Jack Shaffer Childs 1, SE SE Section 14-11-3w, on the west side of the field.

Sthell Petroleum Corporation's Petty 2, SWc NE Section 30-11-2w, which lost 1000 barrels per day when water choked off the oil, has been drilled to 6680 feet, where it is waiting on the cement to set. This is an important test as it may show that the water is in the upper part of the lime and can be shut off and that good oil production is to be found free of water in the lower potrions.

Sinclair Oil & Gas Company's Stamper 1, NW SW NW Section 30-11-2w, which has been carried far into the lime horizon, showing increased oil and water output, dropped off to 3970 barrels of oil and increased its water to 5000 barrels last week.

Indian Territory Illuminatnig Oil Company's Fee 1, C SE SE Section 24-11-3w, discovery well, has been carried to 6672 feet with a slight decrease in oil production and an increase in water. It has not picked up the series of lower pays found in the Sinclair Oil & Gas Company's Stamper 1. Production of the well was slightly over 1300 barrels of oil.

Area West of Pearson Switch Intrigues

TULSA.—Interest in the Greater Seminole district was shifted west of Pearson Switch last week by the wildcat strike of the Amerada Petroleum Corporation and Indian Territory Illuminating Oil Company's Vineyard 1, NWc NE NE Section 15-7-3. This test, 3½ miles northwest of Pearson Switch, encountered the top of the Hunton lime at 4350 feet and at 4383 feet and filled up in less than an hour. The well was then shut in for storage. Later when opened up it swabbed and flowed over 300 barrels of 36 gravity oil at a temperature of 64 degrees. When deepened to 4445 feet it increased to 425 barrels in 24 hours. Elevation of the well is 972 feet. The top of the Mayes lime was 4240 feet, the Woodford shale 4260 feet, the Hunton lime 4340 feet, with the casing set there.

Continental Oil Company has staked a location in the SW SE SE Section 10-7-3, north offset to the producer. Other locations are expected to be made at once.

McMan Oil & Gas Company has purchased the SE SE Section 2-7-3, north of the well, from the Burke-Greis Oil Company.

Dixie Oil Company has purchased four tracts from the Lenox Oil Company of Okmulgee in the district. The acreage is the N½ N½ SE Section 14-7-3; the SE SW Section 3-7-3; the SW SW Section 5-7-3; and the SE SE Section 31-8-3.

SUB—New Drive In Southeast Earlsboro

Ranking second to the new wildcat discovery was the increased recovery of the southeast extension to the Earlsboro field. A number of new locations in the district shows a new drive to develop the region.

Minnehoma Oil & Gas Company's Noe 1, SW NW NW Section 17-9-6, has a big

part in the increased interest in the area. This well came in for 4750 barrels from the Wilcox sand at 4236 feet. Another important and recent completion has been the Magnolia Petroleum Company's Anderson 6. The big flow of the Noe well came after a 10-quart shot. Anderson 6 in the NW SW NE Section 18-9-6, suddenly went dead last Saturday and is being swabbed. It is expected to return to life.

In St. Louis pool, Sinclair Oil & Gas Company's M-Qua-Ka 1, SWc Section 11-7-4, is bottomed at 4219 feet in the second Wilcox sand. It swabbed 392 barrels in 18 hours cutting 35 per cent.

Osage Lease Sale Gets Little Attention

Tulsa.—Little interest is being manifested in the thirty-third oil lease sale of Osage Indian tribal lands to be held September 20 at Pawhuska. Only 20,020.81 acres is being offered at the sale, due to the conservation efforts of the government—10,580.81 acres is on the east side and 9,440 acres on the west side.

The most favored spots where acreage is to be offered is between the Burbank field and the south Burbank pool and the Naval Reserve pool. Offering of tracts in the west half of Section 13-25-5e, showed an attempt to bring development near Remington. Another important tract being offered is No. 110, covering SE Section 8-27-6, where production, if found, would extend Burbank to the north. A number of tracts are being offered near Pawhuska and in the Wynona area, where several fields have been opened in the past year. The Hominy area, west Skiatook, and Barnsdall areas also have some tracts coming under the public auction hammer.

Oklahoma City Gas Line Being Laid

Tulsa.—Work on the laying of the Industrial Gas Company's pipe line to serve industries outside of the city limits of Oklahoma City have been started. The first shipment of the 10-inch pipe has arrived. The company's original investment will be more than $200,000, according to Ford H. Mugg, manager of the company

Sedgwick County Line

Wichita.—Shell Petroleum Corporation is rushing work on its four-inch pipe line extending to the Sedgwick County fields from its Arkansas City refinery. The line will go from Greenwich into North Central Kansas, where the company has production in McPherson County.

Find Oil in Wilcox Sand in Sedgwick County

WICHITA.—The first Wilcox sand producer in the Greenwich field of Sedgwick County, Kansas, is the John Rogers et al's Johndro 1, Lot 16, Block 9, or SE SW SW Section 15-26-2e, Greenwich townsite. The top of the Wilcox sand was found at 3201-04 feet and the well filled up 1800 feet per hour. It commenced slopping over the top of the casing at the rate of five barrels per hour. The big pipe will be pulled preparatory to drilling in.

In the northwest corner of the Greenwich townsite, W. F. Kenny of New York, got a small show of oil and water in the chat at 2940 feet. He will deepen to the Wilcox sand proven productive by the John Rogers et al well. Two other wells that missed production in the chat formation are now going to the Wilcox sand. Skelly Oil Company's Brackne 1, NE NW Section 11-26-2e, an offset to the Mars Oil Company's Miller 1, found water and a show of oil from 2880-2883 feet. The other well is in the Lygrisse area, or southern Greenwich. It is Shell Petroleum Corporation's Fisher 2, SE NE SE Section 15-26-2e, which has mudded off its production in the chat.

Wright Pool Extended

The Wright pool, discovery area of Sedgwick County, Kansas, was given a quarter of a mile west extension last week by the Continental Oil Company, Gypsy Oil Company and Bu-Vi-Bar Petroleum Corporation's Reid 4, NW NE SW Section 1-26s-1w. This well found the producing horizon at 3355 feet and penetrated to 3361 feet where the hole filled up 1000 feet with oil the first 30 minutes. This well makes the Wright, or Valley Center field, approximately one and one-half miles long and two miles wide, with 99 wells.

Added to the production list last week was the E. W. Marland, Incorporater, et al's Mackey 1, NEc SW SW Section 30-27-2e, a wildcat two miles east of Wichita which pumped 43 barrels of oil and 28 barrels of water from chat at 2956-2970 feet in 8½ hours. This makes the eighth pool in the county.

Plains Oil Company, Bradley and Lassen's wildcat on the Curry farm, two miles west of Wichita, has several hundred feet of oil coming through 1800 feet of water. Casing has been set and the water bailed out to test. The showing is at 2710 feet in the second break of the Kansas City lime. It is located on a 10-acre tract in the center of Shell Petroleum Corporation's core drilled block.

Production of the 133 wells in the eight pools of Sedgwick County was 40,006 barrels according to a gauge last week. Half of this production is coming from the Valley Center pool with 98 wells, with the Greenwich district yielding 8927 barrels from 20 wells.

Valley Petroleum Company's Schweiter 1, SEc 27-27-1e, wildcat near Wichita, has filled up with water from the Wilcox sand at 3380 feet.

Derby Petroleum Company's Blood 1, NWc SW Section 28-28-1e, topped the Viola lime at 3485 feet. A showing was found from 3486-88 feet. It is drilling ahead below 3500 feet.

Other Developments

E. W. Marland, Incorporated's Swenson 1, NE SW Section 36-18-4w, wildcat in McPherson County, topped the chat at 3125 feet. After finding two feet of chat the bit went into a sandy chat from 3127-35 feet which carried water. It is drilling ahead.

The deepest drilling test in Kansas today is the Tom Slick et al's Miller 1, SEc Section 13-34-8w, in Harper County, southwestern portion of the state. The well has run the longest string of eight-inch pipe ever run in the state. The pipe was cemented at 4977 feet. Standard tools are being rigged up.

In McPherson County, Tom Slick et al's Gratten 1, NE NW NW Section 34-20-3w, encountered a show of oil from 2405-15 feet and is shut down for repairs to the rig.

Interest in the State Line pool of Sumner County, Kansas, and Grant County, Oklahoma, was revived the past week by the Amerada Petroleum Corporation's Clark 1, NEc NW Section 17-29-4w, on the Oklahoma side. This well topped the Wilcox sand at 4782 feet and produced 185 barrels in two hours without drilling in.

Arkansas Pipe Line Tax Assessments Fixed

Little Rock, Ark. — The Arkansas Tax Commission has announced tentative assessments of eight pipe line companies operating in Arkansas. Increases were made in the assessment of six of the companies, two firms being given reductions because of decreased operations. Combined assessments totaled $1,900,000.

Companies and their tentative assessments follow:

Magnolia Pipe Iine Company, Dallas, Texas, $520,960; Rex Pipe Line Company, St. Louis, $133,100; Southern Pipe Line Company, Fort Worth, $53,310; Arkansas Transit Corporation, Dallas, $76,250; Speith Oil and Pipe Line Company, El Dorado, $9,070; Industrial Gas Company, El Dorado, $583,163; Frank A Reid, El Dorado, $123,925; Texas Pipe Line Company, Houston, $396,150.

Previously the assessment of the Arkansas-Louisiana Pipe Line Company, Shreveport, had been placed at $4,071,315 and the Arkansas Natural Gas Corporation, Shreveport, at $770,180.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Third Ward County Production Area in Prospect

SAN ANGELO, Texas.—The third oil producing area for Ward County was in prospect early this week when the wildcat test of the Penn Oil Company and Atlantic Oil Producing Company on the Benentt et al land, Section 16, Block 34, and about seven miles northwest of the Shipley pool, began flowing by small heads in sandy lime at 2348-2378 feet. The well is rated as capable of 30 to 50 barrels daily at the present depth, being the shallowest in the county, and the oil is reported to be about 38 gravity.

Storage and flow lines are being installed to proceed with drilling.

Gulf Production Company established a deeper oil horizon on the south end of the Gulf-O'Brien pool, Ward County, when its Hutchings et al 2 began flowing at rate of 250 barrels clean oil daily in gray lime at 2990-3006 feet, while the same company's O'Brien 6 is a similar size producer after bailing at 2722 feet, with 15 million cubic feet of gas coming in at 2688-2715 feet.

The Rowan-Tong and Taylor-Link pools, Pecos County, are becoming the most active areas in West Texas, having 37 operations under way, or getting started.

Two tests in the latter pool were ordered completed as gas wells early this week to validate permits on University land, with expiration dates only a few weeks off. Landreth Production Corporation and World Oil Company's University 1-B has been completed as a 15 million-foot gas well at 1610 feet, with a light spray of oil at 1596 feet. Continental Oil Company's University 1, Section 10, located southeast of the Taylor-Link pool, has been completed as a three and three-quarter million cubic foot gas well at 1867 feet.

In the southwest corner of Section 3, Tower & McKanna, Incorporated's University 1 is plugging back from sulphur water at 1865-1872 feet to shoot an oil horizon.

The Rowan-Tong pool has scored a quick start toward an active development program although the discovery well of Independent Oil & Gas Company and Rowan & Tong on the McDonald farm remains in a semi-completed stage in top of lime horizon at 1605 feet with production shut in to permit cemented 6⅝-inch casing to set at 1600 feet. The Tidal Oil Company's McDonald 1, a southwest offset to the discovery well, was the first of the six nearby tests to get underway, having spudded early this week. Milham Corporation has made a location to the north of this new test, while the owners of the discovery well have ordered equipment to drill an east offset to the Tidal Oil Company. Landreth Production Corporation is starting a test in the northwest corner of the SE¼ Section 46, and The Texas Company is offsetting same to the west, while Tidal Oil Company's McDonald 2 has dug cellar to form a north offset to the latter, leaving an offset open for the owners of the discovery well. The The McDonald producer was rated at 2000 to 2400 barrels daily flowing natural when killed to set pipe.

Taylor-Link Completions

The Taylor-Link pool, located about five miles to the south, came through with a number of new locations within the past week, including three by the Sun Oil Company. The Shell Petroleum Corporation's University 1-C, Section 31, which furnished a big surprise recently by flowing 400 barrels of oil during first hour and 300 barrels during second hour at 935-40 feet, with a total depth of 961 feet, is being choked to about 480 barrels daily through a ⅜-inch choke, pending connecting this well to the Humble Pipe Line Company's six-inch extension line from McCamey. The Landreth Production Corporation and World Oil Company's University 1-B, located in the northeast corner of Section 13, Block 18, developed a flow of 15 million cubic feet of sulphur gas at 1570-98 feet after cementing 6⅝-inch casing at 1517 feet, and should be the next important completion in the pool.

Ward County Promising

Ward County bids fair to share the interest of West Texas operators along with Pecos County since the discovery of oil and gas in the wildcat test of the Penn Oil Company and Atlantic Oil Producing Company on the Bennett (Pecos Mercantile Company) land, located in the north corner of the south quarter of Section 16, Block 34, H. & T. C. Ry. Survey. It began flowing by heads Sunday with good gas pressure at 2348-2369 feet. This producer is about seven miles northwest of the Shipley pool, the nearest producing area, and is on a lime high lying west of the trend of sand formation that furnished oil and gas production in the Shipley and Gulf-O'Brien pools. A condition similar to this exists to the north in Winkler County, where the lime formation producing area is more uniform and productive, while the sand area is erratic, as proven in the Gulf-O'Brien pool lately. The Pure Oil Company originally held lease on the section bearing the new strike, but retained two quarter sections, thus earning two offsets.

Since the Atlantic Oil Producing Com-

Glasscock County Wells Given Line Outlet

Big Spring, Texas.—A pipe line and market outlet for the production of two semi-wildcat oil producers completed recently in Glasscock County several miles southwest of the Settles field was provided early this week when the Cosden Pipe Line Company began operating its four-inch extension line. Lion Oil Refining Company's R. C. Coffee 1, Section 22, pumped 590 barrels of clean oil during first 16-hour test at 2152-2240 feet before shutting down for storage, and Kirby Petroleum Company-Atlantic Oil Producing Company and Black Arrow Oil Company's H. Phillips 1, Section 23, is rated above 200 barrels daily at 2212-68 feet. The owners of the above two wells have agreed to deliver and sell their oil for one year to the Cosden Pipe Line Company.

Schermerhorn Oil Company's Phillips 1, an east offset to the Kirby et al producer, is scheduled to be the next completion in the pool, having cemented pipe on top of a show of oil at 2069 feet. Sun Oil Company is drilling on two locations along the south line of Section 14, which is owned by the company, and has several more offsets to take care of. Kirby et al are starting a test in the northwest corner of Section 23 on the W. S. Baker land, and E. L. Smith Oil Company is drilling in the southeast corner of Section 15. The California Company is to try to widen the producing area with a test on the C. F. Jones farm to the northeast corner of Section 25.

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PIPE & CASING

pany is a part owner in the new Ward County strike, a prompt pipe line connection is assured, with the Atlantic Pipe Line Company's six-inch carrier to the Shipley pool only a few miles to the east. On the eastern edge of Gulf Production Company's O'Brien pool acreage, the Continental Oil Company's John Sealy 2, located in the southwest corner of Section 81, Block "A," was connecting up to resume drilling with two million cubic feet of gas at 2415 feet, after logging the top of the brown lime at 2280 feet, with a surface elevation of 2611 feet. This test is just north of the Pecoa-Midland highway.

In Brewster County, the wildcat test of J. P. Johnson and Bert Weekly on the Jackson-Harmon ranch, center Section 104, Block 10, G. H. & S. A. Ry. Survey, is scheduled to become a deep test, having reported a number of favorable gas showings while drilling sandy-lime at 3860 feet. A string of 8¼-inch casing was landed at 2500 feet. The Kingwood Oil Company is running 4½-inch A. P. I. casing at 7667 feet in its deep test on a wildcat block in Irion County. In the Big Lake field, Big Lake Oil Company's University 131 has found difficulty in making hole at the 8273-foot level because of the hardness of the formation. This test has only about 250 feet to go to reach the expected oil and gas producing horizon.

Rowan & Tong Pool Gets Pipe Line Connection

McCamey, Texas. — The Texas Pipe Line Company is assembling materials for the immediate construction of a 12-mile six-inch extension line from its West Texas trunk line system near McCamey to the Rowan & Tong pool in northeastern Pecos County.

About 15 days will be required to complete this line, and it is reported that Victaulic couplings will be used in connecting the pipe joints.

West Texas Panhandle Wildcat Showing

Amarillo, Texas. — Continental Oil Company made an oil strike on the west edge of the Panhandle Plains late last week when its wildcat test on the C. C. Slaughter ranch, Cochran County, developed 1000 feet of 20 gravity oil in the hole at 4878-85 feet, after setting 6⅝-inch casing at 4730 feet. The test drilled into sulphur water at 4915-22 feet early this week, making one bailer water per hour, and is to be deepened. It is located in a 36,000-acre block of leases. The nearest production is across the state line to the southwest in the Hobbs pool, Lea County, New Mexico. The surface elevation is 3793 feet.

Continental Oil Company started its first test in February, 1928, and same was junked and abandoned at 1530 feet last December. The new test is located in the southwest corner of League 130, Carson County School Land Survey.

Van Zandt County Show Stimulates Leasing

Corsicana, Texas. — Shallow showings of oil encountered in the wildcat test of Pure Oil Company on the Jarman farm, located in the northeastern part of Van Zandt County, have served to stimulate royalty trading in the general area. This wildcat is the most interesting test now under way in the East Central Texas fault zone, and early this week wa scoring at 2297 feet, having encountered oil and gas showings below the horizons tested with eight scattered core tests a few months ago. Pure Oil Company has a huge block of protection acreage against this test, which is located in the southeast corner of Section 2, Nacogdoches County School Land Survey, and about one mile northwest of the town of Van, or three miles west of the Smith County line. The hole is being drilled on contract, and is scheduled to go to 4000 feet should production not be developed prior to this depth.

New Pecos County Areas Start Drilling Rush

San Angelo, Texas.—The recent outbreak of field work on a large scale in the Taylor-Link and Rowan-Tong shallow pools in north central Pecos County has stimulated the oil field supply business and the shortage of drilling machines has not been relieved, although this type of drilling rig is being shipped in from other fields in Texas and Oklahoma as well as direct from manufacturing plants. These two areas promise to be active for a number of months, while no organized effort has been made to introduce proration and drilling restrictions. The two pools are about five miles apart, with sufficient dry holes in between to indicate separate producing areas, although both are producing from the same general lime horizon, and early this week were credited with a total of 19 operations underway, and 18 locations, machines and rigs.

McCamey is destined to become the principal supply center for this activity, and the oil field equipment firms that remained at this early oil field town have been enjoying a brisk business, with assurance of an increase in sales as tests now under way and getting started reach the oil and gas horizons. The presence of a heavy gas flow above the oil level in portions of the Taylor-Link pool has necessitated the installation of high pressure equipment, and first class quality. Recently a highway leading from McCamey to the two pools, a distance of about 15 to 20 miles, was opened up, with a bridge across the Pecos River. The pipe line extensions of the Humble Pipe Line Company and The Texas Pipe Line Company are being built from McCamey to this new producing district.

A majority of the operators have elected to contract their drilling work on a footage basis, or on a turnkey basis for a completed well. A surplus of gas is now available for fuel, and water is obtainable from shallow wells.

The status of field work early this week in the Taylor-Link and Rowan-Tong pools is listed below by companies:

Company—	Locations Rigs Machines	Drilling Tests
The California Company	..	1
Continental Oil Company	..	2
Gulf Production Company	..	1
Henshaw Oil Corporation	5	.
Henshaw et al	1	.
Independent Oil & Gas Company and Rowan & Tong	1	1
Landreth Production Corporation	4	.
Landreth and World Oil Company	1	1
W. A. Moncrief	1	2
Milham Corporation	1	.
M. M. Rowan	..	1
Shell Petroleum Corporation	..	1
Sun Oil Company	1	2
Taylor-Link Oil Company	2	2
The Texas Company	1	.
Tidal Oil Company-Tower & McKanna	..	1
Tower-McKanna, Inc.	.....	2
Transcontinental Oil Company	..	1
World Oil Company	..	1
Total	18	19

Pipe Line Assured For Hobbs Pool

Artesia, New Mexico.—Having added its fourth oil producer late last week, the Hobbs pool, located in east central Lea County, is now certain to attract a pipe line connection and market outlet in the near future. The Walker Oil Corporation of Wichita, Kansas, scored the latest producer in the pool by extending the productive limits about one mile to the southeast when O. B. Terry 1, NWc s½ SE Section 10-19s-38e, flowed at an estimated rate of 500 barrels of clean oil daily from five feet of lime at a total depth of 4150 feet. Further penetration of the lime will follow the completion of the two 5000 and two 500-barrel steel tanks ordered early this week for immediate erection, thus providing 11,000 barrels of storage.

Humble Pipe Line Company is expected to be the first to enter the Hobbs pool, since this concern recently made survey for a line to be extended from its system in the Jal district, located in the lower end of the county. Humble Oil & Refining Company recently joined the ranks of producing units of the pool by the development of a flowing well on its D. A. Bowers 1, Section 30-18s-38e, and is facing a storage building program until a pipe line connection is available. The Bowers well caught fire August 28 while flowing 200 barrels daily at 3143-3368 feet. Operations were resumed late last week after replacing damaged equipment, and the well has incerased its flow to about 400 barrels daily while fishing drill stem. This well, three miles northwest of the two offset producers of the Mid-West Refining Company, is producing from a shallower horizon.

Harry Walker, president of Walker Oil

Corporation, is a veteran operator in the Artesia district. The company's Hobbs pool strike was drilled on contract by the Eastland Oil Company, Fort Worth, with Ray Sindorf in charge of drilling for the latter concern. Rotary equipment was used to the top of the salt at 1747 feet, and the balance of the hole was made with standard tools.

Although The Texas Pipe Line Company has completed its 50-mile six-inch pipe line extension from the Jal district to the Lynch pool, located about midway between the Jal and Maljamar pools, The Texas Company et al is limiting the pumping output on its Lynch-government permit 1, Section 34-20s-34e, to about 90 barrels 30.9° gravity oil daily until withdrawals can be made from the 37,500-barrel storage tank on the lease. The Texas Company et al's Chas. W. Shepherd-government permit 1, Section 6-26s-37e, Jal district, is flowing four million feet of gas and 350 barrels of 28 gravity oil daily, 2½ per cent water, through 28/64-inch choke with 1125 pounds back pressure after being worked over at 3318 feet.

Gray Production Down; Shut Down Fails

Amarillo, Texas.—Gray County registered a drop of 3350 barrels in daily average production during the past week from the peak of 98,625 barrels established on the previous week as a sequel to an organized effort made by a group of companies and operators not adequately protected with market outlets to curb both drilling and production. Other than the elimination of the drilling of unnecessary locations, the shutdown movement is proving of short duration, and operators are proceeding with the completion of new tests as pipe line connections and storage becomes available. The shutdown movement failed to gain the support of several of the major companies that have transportation facilities for their own output.

Field work in Gray County is being curbed, since many of the most prolific leases in the Bowers-Jackson and Lefors districts have been drilled up. At the close of last week the county had 67 active tests; 17 tests shut down for storage and other causes; eight derricks and rigs; and six locations, making a total of 97 operations.

Phillips Petroleum Company averaged 28,685 barrels daily during the past week in the Panhandle district, with the bulk coming from Gray County properties. The Texas Company, which is also obtaining virtually all of its production from this county, averaged 25,815 barrels daily during the same period, but suffered a loss of 3065 barrels. Phillips Petroleum Company has obtained some relief on its overproduction troubles in Gray County through the leasing of ten 80,000- and six 55,000-barrel steel tanks in Carson and Hutchinson Counties from Continental Oil Company, and two 55's from the Dixon Creek Oil Company. Arrangements have also been made for the transportation of the Gray County crude via the Prairie Pipe Line Company's system to this tankage. Continental Oil Company sold one 80,000- and two 55,000-barrel steel tanks in Carson County to Prairie Oil & Gas Company.

Replacing an exhausted producer with a twin location, Phillips Petroleum Company's Jackson-Joe Dan 2-A, located in the northwest corner of the northeast quarter of Section 88, Bowers-Jackson field, swabbed 320 barrels initial from granite wash formation at 2910-12 and 2945-55 feet. This well is cleaning out at 2970 feet, and may be deepened. Heavy production of offset producers to this corner location led to the second hole being drilled. The Texas Company's Bowers 12, NWc NE Section 63, threatens to partially define the productive limits of the Bowers-Jackson field to the east, having encountered water while swabbing 100 barrels of oil on initial test at 3155 feet.

1450 Pounds Pressure in Refugio Gas Well

Houston.—Although Refugio continues one of the most active fields along the Gulf Coast, only one well was completed there during the past week. It was Houston Oil Company's Rea 2, which came in as a dry gas well at 3661-67 feet, registering a rock pressure of 1450 pounds.

A new depth record has been set for the Refugio field by Mission Drilling Company's O'Brien 1, which is now preparing to set casing over a gas sand at 5513-21 feet. Mission Drilling Company also has several other operations at Refugio. Its J. F. B. Heard 1 has pulled screen to reset after bailing dry at 3430 feet. J. F. B. Heard 2 is waiting on cement to set over a showing at 3653-59 feet.

Houston Gulf Gas Company's Shelly 6 is pulling screen, set in a sand at 5060-70 feet. Morgan-Shelly 1 is waiting on cement to set over sand at 3660-65 feet. Union Exploration Company's Rooke 2 is plugging back to test a showing at 3665-71 feet. Sun Oil Company's Buckley 2 is drilling sandy shale showing oil at 3665 feet, and its Johnson 1 is drilling shale at 3470 feet.

Well Near Dale Yields 38.7 Gravity Crude

Houston.—The Texas Company's W. T. Cude 1, an offset to Buchanan et al's Jeffrey 1, the discovery well of a new serpentine field in western Caldwell County, has come in producing 38.7 corrected gravity crude at 1836 feet. On September 9 it swabbed and flowed 130 barrels pipe line oil in 14 hours. This is the second producer of the area. The discovery well there came in early in August, 1929. It swabbed 50 barrels the first 12 hours from the serpentine at 1740-2050 feet.

This area is due south of the town of Dale, and about two miles southwest of the Dale field, which is also producing from the seprentine.

Second Producer for Lost Lake Dome

Houston. — Pure Oil Company's Mayes 3 at Lost Lake dome, Chambers County, came in September 5 as the second oil producer of that field. It is flowing from 50 feet of sand and sandy shale at a total depth of 2797 feet, producing 23.2 corrected gravity crude. During the first 15 hours it produced 660 barrels, and the next 24 hours the production amounted to 920 barrels. Six and one-quarter-inch casing is set at 2735 feet.

This well over a month ago had a gas blowout at 2150 feet, but was later deepened. Its present production is evidently from the same sand in which Pure Oil Company completed Mayes 2, the discovery oil well of Lost Lake. That well came in August 1, 1929, flowing around 200 barrels daily of 23 gravity crude from 2782 feet. Mayes 3 is about 1000 feet northeast of Mayes 2.

The new producer, Mayes 3, is located 400 feet east of Mayes 1, completed as a 40-million cubic foot gas well by the Pure Oil Company the latter part of March this year at 2071 feet. The company is now preparing to deepen Mayes 1 from the gas sand to the oil sand in which Mayes 2 and Mayes 3 have been completed.

Big Creek Wells

Houston.—There were two completions in the Big Creek field, Fort Bend County, the first few days of this week. Gulf Production Company's Davis 55 came in at 4100 feet for 3500 barrels initial production. The Texas Company's Wheat 2 was abandoned at 4183 feet.

Calcasieu Deep Test

Houston.—Shell Petroleum Corporation's wildcat test, Miller 1, located three-quarters of a mile west of production in Calcasieu Parish, Louisiana, now ranks among the deepest tests of the Gulf Coast. According to a recent report it was drilling shale at 6781 feet.

Salt Flat Pipe Line Company Reorganized

Dallas, Texas.—The Petroleum Pipe Line Company of Texas, which is the only independent crude purchaser and shipper in the Salt Flat field, Southwest Texas district, has been re-organized and the name changed to Cranfill-Reynolds Pipe Line Company. The Company was organized last year by Cranfill & Reynolds, Incorporated and T. J. Mullin with a capital stock of $80,000, and all stock was recently acquired by the Cranfill-Reynolds Company. Tom E. Cranfill is president of the new company, and T. J. Mullin is to remain in charge of operations. Headquarters are to be moved from the Magnolia building to the seventh floor Fidelity Union building, Dallas, at the close of September.

A. I. M. M. E. Session to Precede Exposition

Tulsa. — Committees are now making final arrangements for the fall meeting of the Mid-Continent Section of the American Institute of Mining and Metallurgical Engineers in Tulsa, October 3 and 4. This program will come just in advance of the opening of the International Petroleum Exposition and Congress, October 5, to run through October 12.

Dates for the Tulsa meeting will allow those attending to remain for further attendance of the exposition, as well as for any visiting that may be desired into the Mid-Continent oil fields. While no field trips have been planned, the local committee will take care of any trip that visitors may desire.

In addition to the technical program, there will be a banquet the evening of October 3. Final arrangements have not been completed for this. Headquarters will be at the Mayo Hotel and all sessions will be held there.

L. E. G. Bignell is chairman of the Mid-Continent section. Others on the committee to arrange the Tulsa meeting are R. R. Brandenthaler, George Whiteford, H. H. Power, E. O. Bennett, H. B. Goodrich, Hollis P. Porter and Paul Rudeman.

The program for the Tulsa meeting follows:

"Principles Controlling Spacing of Oil Wells"— W. P. Haseman, with discussion by John R. Suman, L. E. Uren and Stanley C. Herold.

"Spacing Gas Wells"— Paul Rudeman.

"Well Spacing at Long Beach"—Stender Sweeney.

"A symposium on the effect of well spacing in particular fields of Texas, Oklahoma, Kansas, Louisiana, Arkansas and the Appalachian States to which C. E. Beecher, A. W. Peake and others have contributed, will be offered.

"Existing Economic Situation in the Petroleum Industry"—Joseph E. Pogue.

"Effect of Gasoline Content on Gas-Oil Ratio Calculations"—Alexander B. Morris.

"Tubing High Pressure Gas and Oil Wells"—H. C. Otis.

"Electrical Welding of Field Joints of Oil and Gas Pipes"—Harold C. Price.

"Mathematical Development of the Theory of Flowing Oil Wells"—J. Versluys (T. P.) for discussion.

"Classification of Flowing Wells and Adjustment of Flow Strings"—F. P. Donohue.

"Mid-Continent Practice in Handling Flowing Wells" (Natural and Gas Lift)—Reid Bond, D. L. Trax, C. D. Watson and Morgan Walker.

"Flow Resistance of Gas-Oil Mixtures Through Vertical Pipes"—L. C. Uren, P. P. Gregory, R. A. Hancock, and G. V. Feskov, to be presented by Mr. Gregory.

"Some Observations on Principles Involved in Flowing Deep Wells"—S. F. Shaw (T. P. 235).

Skelly Anniversary During Exposition

Tulsa.—Dates to coincide with the Sixth International Petroleum Exposition and Congress have been selected for the celebration of the tenth anniversary of the Skelly Oil Company. The celebration will fall October 4 and 5, the last date being the opening day of the exposition.

Skelly Oil Company was organized October 2, 1919.

A picnic at the Crystal City amusement park will constitute the program of October 4, while the visit to the exposition will make up the second day of the celebration.

Skelly Oil Company employes, scattered from the Canadian border to the Gulf of Mexico, who have had five or more years of continuous service, will be guests of honor at the celebration. In pursuance of the annual custom, all employes who have completed 10 years of continuous service with the company by October 1 will be special guests and will be awarded gold medals.

The annual golf tournament will be held at the Oakhurst Country Club, October 5. Teams of 12 players each from the company's divisional headquarters at El Dorado, Kansas City and Tulsa will compete for the company trophy, which has been won twice by the El Dorado team. Permanent ownership of the trophy is gained by three consecutive winnings.

A feature of the picnic at Crystal City will be the elimination contests among safety teams from the refining and production departments to determine which team shall represent the company in the annual first aid meet of the exposition, October 10. C. L. Swin, in charge of safety work, will direct this contest.

El Dorado and Kansas City will be the principal concentration points for those attending the celebration. A special train will be operated over the Santa Fe from El Dorado, leaving there the night of October 3. Pullmans containing the Kansas City delegation will be hooked to this special at Independence, Kansas, and the train will arrive in Tulsa the morning of October 4. The cars will be used as accommodations for the delegation during the visit to Tulsa.

As soon as the train arrives the visitors will be taken to the Mayo Hotel, where breakfast will be served. Afterward they will be given a tour of the city and will then inspect the remodeled Skelly building. The headquarters office will close at noon October 4 and will remain closed the following day.

Employes from the production and natural gasoline departments will come to Tulsa by automobile. About 2000 are expected. Those from points farther from Tulsa than Texas will be persons of at least five years connection with the company.

The general committee in charge of arrangements is composed of A. F. Winn, Glenn Condon, A. L. Cashman and John B. Freeman, all of the Tulsa office, J. D. Powell of El Dorado and William Knapp of Kansas City. W. D. Hume of the Tulsa office is chairman of the golf tournament.

Cranfill-Reynolds Will Locate at Dallas

Dallas, Texas. — Headquarters of the Cranfill-Reynolds Company, which was organized last July by the Moody-Seagraves Interests of Houston, through the merger of a group of producing, refining and pipe line companies, will be established here about October 1, according to Tom E. Cranfill, president. The sixth and seventh floors of the Fidelity Union Building have been leased to accommodate the staff, which will be brought here from Cisco, Houston, Corsicana, Midland and other points. However, field offices will be retained at the above points as well as in the various oil and refining centers in Texas, New Mexico and the Rocky Mountain States that the company is operating.

E. B. "Gene" Germany, Dallas, has been elected an active vice-president of the Cranfill-Reynolds Company, and J. Edgar Pew, Dallas, vice-president of the Sun Oil Company, has been added to the board of directors, according to a mid-week announcement made by officials of the company.

GRAND OLD MEN OF THE OIL INDUSTRY

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His present address is.....

His place of birth and date are.....

He entered the industry in (date).....at (place).....

.....as a (kind of job).....

He (is) (is not) still engaged in the industry.

My name is.....My address.....

NOTE: Mail at once to Barney E. Horrigan, chairman of Old Timers Committee, International Petroleum Exposition, 124 West Third Street, Tulsa, Oklahoma.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Santa Fe Springs Yield Higher Than Expected

LOS ANGELES.—Production at Santa Fe Springs declined slightly during the past week, but, despite the belief that the new gas saving law would immediately enter into the situation, the field total was much higher than anticipated. The decline probably will be slow during the remainder of the year, unless the state goes after the operators with a vengeance to prevent the enormous waste of gas.

A bunch of new wells near the end of the week sent production upward, although the average for the period failed to reflect the new oil. Twelve wells with an initial production of 27,200 barrels were completed.

Clarke zone completions were unusually good and again placed this formation in the spotlight. The water problem seems to have been solved, even in the edge wells and this zone should be an unusually good producer on inside leases. As in the past, wells completed in the Clarke zone during the week were far from the center of the field and their good showing in such a location is considered remarkable. Production from this sand has passed 40,000 barrels from 25 wells and the manner in which these producers are holding up is an indication of a high gas pressure.

New Wells Destined for Clarke Zone

Associated Oil Company is coring at 8333 feet in Fulton 4, an outpost test in the Clarke zone, with streaks of oil sand and shale lending encouragement. The gas pressure in the core barrel after it was taken from the hole was so great that it pushed the core completely from the barrel after the catch was released.

Union Oil Company, by lowering the tubing from 6171 feet to 6703 feet in Alexander 16, reduced the flow of gas from 30 million cubic feet to 14 million cubic feet without reducing oil production. The increased thickness of the fluid between the fluid level and the bottom of the tubing seemed to act as a barrier to the gas.

Nine wells were started for the Clarke zone during the week, all of which were or had been producing in the O'Connell zone. Several of the wells were killed because of the small production.

The best Clarke zone producer completed during the week was Reiber's No. 1, which came in with an initial production of 4100 barrels from 7825 feet. The oil was 34.5 gravity and showed a cut of only two-tenths of one per cent. Gas production was more than three million cubic feet.

Shallow Zone Completions

MacMillan Petroleum Company also broke into the Clarke zone producing column with the completion of No. 1 as a 3500-barrel producer at 7950 feet. With a negligible cut, this well seems to have definitely solved the water problem which was so troublesome during the early days of the Clarke zone.

General Petroleum Corporation's Jalk 111, a failure in the upper zones, was completed in the Clarke sand at 7961 feet with an initial production of 2200 barrels of clean oil.

A half dozen fair wells were completed in the O'Connell zone, but they failed to show the life which made earlier wells the talk of the whole country.

Shallow zone production increased considerably, due to the increased life in the sands, which have been re-pressured, and the addition of several wells which have been idle.

Elwood Ocean Permit Well Finds Sand

Santa Barbara, Calif.—Pacific Western Oil Company, first operator to get under way on the ocean permits at Elwood, has found the top of the oil sand at the unusually shallow depth of 3290 feet and is reaming to cement a string of 8⅝-inch casing for the final shutoff. In picking up the sand at such a depth the company has practically proved that the well is located as favorably as many of the best producers in the main field.

Barnsdall Oil Company has stopped drilling at 5200 feet in Doty 5, a deep test on the flank of the structure, and will plug back to the Vaquerous formation preparatory to using the well for storing surplus gas.

Milham Co. Opposed to Shut-in Agreement

Los Angeles.—Milham Exploration Company remains the only holdout among the list of companies and individuals required to sign the plan to gradually suspend operations at Kettleman Hills and to shut in practically all wells as they are completed.

The bone of contention centers around the delivery of natural gas to San Francisco, Milham Exploration Company holding valuable contracts to furnish the Pacific Gas and Electric Company with large quantities for domestic and industrial consumption.

The contracts were made before the inception of the move to shut in the field and apparently take precedence over the present move to prevent additional drilling.

San Francisco and other Bay cities are vitally interested in obtaining a supply of straight natural gas and not as much concerned over the impending shutin as Southern California.

Well Showing Gas Was About to be Abandoned

Tulsa.—McGee-Revels, the Bison Oil & Gas Company, and the Spears Drilling Company's Wolfe 1, NEc Section 17-1n-2e, wildcat test north of Davis in Murray County, Southern Oklahoma, which drilled to 2510 feet with a hole full of water, is showing gas.

The test was scheduled for abandonment. When the crew had pulled about 300 feet of the 8-inch pipe gas broke in and cleared the hole, damaging the rig. If the water can be handled the well is estimated capable of 20-million feet of gas. The hole has caved, causing a shut off of the gas.

Ownership of the well is in litigation and operators have not decided whether to attempt to complete the well or to continue with the plugging plans.

Permit is Granted For 163-Mile Gas Line

San Francisco. — Pacific Gas and Electric Company has been granted permission to build a large natural gas line from Pinoche Pass, a point on the present Kettleman Hills-San Francisco line, to Richmond, 163 miles. The California Railroad Commission, at the same time, denied a permit to the Western Natural Gas Company to enter the same territory. The new line will have a capacity of 60-million cubic feet daily and will serve as an emergency supply line in case of a break on the main line between Pinoche Pass and the Bay district, in addition to furnishing many cities from regular channels. Pacific Gas and Electric Company has plans under way for the construction of another line from Kettleman Hills to the Bay district, but the 162-mile line may change the original plans. The original scheme was to have a great loop in order that the city would have two sources of supply.

Fuel and Heavy Crude Demand Declining

San Francisco, Cal. — Further evidence of the fact that the demand for fuel oil and heavy crude is declining is contained in a recent report compiled by the U. S. Bureau of Mines, presenting data for 1928. Total deliveries of gas and fuel oil by refining and marketing companies located in the Pacific Coast area aggregated 145,946,629 barrels in 1928, a decrease of 9,997,345 barrels from the records of 1927. Heavy crude used as fuel on the Pacific Coast during the same period showed a decline from 16,445,636 barrels in 1927 to 15,514,949 barrels in 1928. The quantity of oil added to fuel oil storage during 1928 amounted to 5,200,410 barrels.

Analysis of various uses of fuel oil on the Pacific Coast reveals that declines were recorded by steamships (including tankers), shipbuilding, steel mills and foundries, textiles, ceramic industries, other manufacturing, domestic heating and foreign shipments. It is shown in this report that a considerable decline in exports of fuel oil brought about the total decline, whereas actual shipments for domestic uses showed a slight gain. Apparently, the trend of fuel oil demand on the Pacific Coast is downward, due primarily to the advent of natural gas distribution. In this connection it is also evident that further declines will be recorded in the use of gas oil for gas making purposes, as natural gas service is rapidly eliminating the use of manufactured gas. Inquiry among fuel oil marketing companies of the Pacific Coast reveals a sharp decrease in fuel oil demand at the present time, with the prospect of continued declines. It is anticipated that this decline will be offset by converting surplus fuel oil supplies into gasoline through the expansion of cracking facilities among California refineries.

Well Is Brought In On West Flank of Midway

Taft, Calif.—After a lapse of more than six months, Chanslor-Canfield Midway Oil Company has added another producer in the district discovered two years ago along the west flank of Midway field. The new well—No. 8, Section 7-32-23—was completed at 3000 feet and is flowing 750 barrels of clean oil. The district has produced oil from shallow depths for more than 20 years, but entered the deeper producing class when a good well was completed late in 1927 at 2900 feet.

Wild Well at Kettleman Hills Defies Crew

COALINGA, Calif.—Continental Oil Company has made little progress toward bringing its No. 12-8 under control and has decided to apply the tunnelling method to this troublesome Kettleman Hills test. The well blew out a week ago during a production test and has been flowing wild from between the 8⅝-inch and 11¾-inch strings of casing. The well started flowing under control at the rate of 100 barrels per hour, but when the pressure passed 2300 pounds the packing failed to hold.

The nature of the blowout makes it very difficult to get at the seat of the trouble. The well was drilled to 6876 feet, or about 900 feet below the final shutoff. Oil production is estimated at 2500 barrels and the gas flow at 75 million cubic feet. The well is flowing full force into the cellar and the danger from fire is very great. Plans are being rushed for digging a tunnel to divert the flow, as was done twice at Santa Fe Springs.

Action of this well definitely brands the discovery well as a bona fide producer and discounts the theory that other similar producers wil not be completed. The spray from the wild flow causes such a condensation that it is difficult for workmen to enter the derrick. The oil is almost water white and apparently about 60 gravity.

Milham Exploration Company has passed 7325 feet in Kennedy 1, the deepest well ever drilled in the field, with the formation not yet showing enough oil to warrant a production test. This test is located about two miles northwest of the company's discovery well and failure to find a productive sand has caused considerable anxiety.

Ohio Oil Company is drilling at 6900 feet in Smith 1, a test on the south dome, and has been able to get good cuts for several hundred feet. This well is located 20 miles southeast of the discovery well and its success would fill in a tremendous gap.

Standard Oil Company is making uniform progress in half a dozen of its wells on the north dome and should complete most of these within a few weeks. The company has seven wells drilling below 6000 feet, three of which have passed 6500 feet. One well is being drilled for storing surplus gas.

The extremely high gas pressure has rendered much of the present equipment obsolete, particularly surface fitting and equipment. It may be necessary to design a still heavier line than that available to stand the extremely high pressures encountered.

Amerada Petroleum Corporation has entered California by the acquisition of a valuable lease on Section 29-21-17, only a short distance from the discovery well. This is one of the few transactions made since the field was discovered a year ago.

LONG BEACH, CALIF. — Shell Oil Company's Nesa 11, world's deepest well is still pumping water, with a trace of oil from a total depth of 9280 feet. A string of 2½-inch tubing was run to 3005 feet for the pumping test, while a string of 5¾-inch casing was cemented at 9144 feet.

Guarded Wildcat Fails on Production Test

Santa Maria, Calif.—System Oil Company has been unable to make a commercial well of its Bradley 1, Section 36-10-34, a promising wildcat, following a production test at 4280 feet. Great secrecy was maintained, armed guards having been placed on the property to prevent trespassing. Reliable reports state that water broke in during the test and that the well will be re-cemented. Leasing has been active in the district since the production test was announced.

Santa Barbara Mesa Tests Discouraging

Santa Barbara, Calif.—The status of the Santa Barbara Mesa field remains unchanged, two deep tests having failed to find a productive sand which was expected around 3500 feet. Altadena Petroleum Corporation has passed 3525 feet, with a red sandy shale offering little encouragement. Roggie and Kauffman are drilling in gray sand at 3500 feet, the formation showing no sign of a cut. Failure of these two deep tests probably will sound the death knell of deeper development.

Independent Oil & Gas Enters California

Tulsa.—Officials of the Independent Oil & Gas Company at Tulsa have announced the entry of their company into the California producing districts. A west coast office will be opened, probably at Los Angeles.

E. H. Moore, president; Gillette Hill, vice-president, and A. I. Leverson, chief geologist, are in California conducting a preliminary survey of the Pacific Coast producing areas. Definite plans for the California expansion of the company will be announced after their return.

Gillette Hill, in announcing the expansion, said Independent Oil & Gas Company was interested in California chiefly as a potential production reserve and that no extensive drilling campaign would be begun in the immediate future. The company operates in Oklahoma, Kansas, Texas, New Mexico and Arkansas, producing around 30,000 barrels.

Expansion plans are in line with the program inaugurated shortly after the merger of the Independent Oil & Gas Company and the Philmac Oil Company two years ago. The Manhattan Oil Company distribution system in the central

west was added last year, and additional facilities have increased the company stations to more than 500.

The company's two refineries, at Kansas City and Okmulgee, have been enlarged until each can handle 7500 barrels of crude daily.

The company has added heavily to its acreage reserve in the past year, until it now holds nearly one million acres under lease, most of which is in Oklahoma, Kansas and Texas.

Getty Gets Shallow Oil Well at Summerland

Summerland, Calif.—George F. Getty, independent operator, has completed Becker Fee 1, a test of the shallow sands in the Summerland field, with an initial production of 250 barrels from 1290 feet. The well is being produced on the compressor.

Southern Exploration Company has abandoned Twitchell 1, also intended as a test of the shallow sands, the formation showing water. The well was drilled to 575 feet, and plugged back to 350 feet for the final test. The structure plunges sharply on the east edge and probably is affected by a faulted condition. Production seems to center along a narrow string flanking the ocean.

Semitropic Wildcat

Taft, Calif. — Richfield Oil Company has abandoned Redding 1, a semi-wildcat test in the Semitropic district, after drilling to 7620 feet. The well was plugged back for a test of a promising formation found around 6000 feet but the shallower sands failed to make a better showing than the deeper formations.

Garland Dome

Garland, Wyoming.—Producers & Refiners Corporation is preparing to run a string of 4¾-inch casing into its No. 3 on the Garland dome, which is now bottomed in the top of the Tensleep at 4182 feet. The well showed about six million cubic feet of gas when the sand was first cracked, and this increased until it measured 10 million. Before the flow was killed by pressure pumps and mud it was thought best to run another string of casing, the 6¼-inch having been set and cemented at 3759 feet. This test had a flow of three million cubic feet of sulphur gas in the Embar sand. The Garland structure is one of the largest in Wyoming. It is on the north side of the Big Horn basin and is directly opposite the Oregon Basin field. Ohio Oil Company and Utah Southern Oil Company have each completed wells on this structure, both of which are shut in with heavy gas flows. It is reported that negotiations are under way to purchase this gas and gas production at Oregon Basin and other fields in northern Wyoming, and pipe it to Butte and Anaconda, via Helena, to furnish a large industrial market in Montana smelters.

July Production Sets New High Peak

WASHINGTON, D. C.—According to the monthly report of the Bureau of Mines for July, production of crude petroleum amounted to 91,327,000 barrels, a daily average of 2,946,000 barrels. This was the first time the total has exceeded 90,000,000 barrels. The daily average production of Texas was over 50,000 barrels higher than in June and the state regained first place among producing states. Nearly every district in Texas recorded gains in production during July. Both California and Oklahoma registered material gains during that month, while Kansas reached the 4,000,000 barrel mark for the first time since August 1918. Production in the Appalachian district also showed a material gain during July.

Crude stocks east of California increased 4,254,000 barrels during July, as compared with a small decrease in the preceding month. The major portion of the gain was due to increases in Mid-continent tank farm stocks. Stocks of crude held by refining companies also showed an increase which amounted to 800,000 barrels. Stocks of both light and heavy crude continued to increase in California, the total accumulation for July amounting to 3,749,000 barrels. Stocks of all oils on July 31 amounted to 666,962,000 barrels, a new high mark. This represents a gain over June of 6,537,000 barrels, as compared with a decline in July 1928, of 3,687,000 barrels.

Following is the Bureau of Mines analysis of supply and demand for all oils for the month of July:

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS
(Including wax, coke, and asphalt in thousands of barrels of 42 U. S. Gallons)

	July 1929	June 1929[1]	July 1928	Jan.-July 1929	Jan.-July 1928[2]
NEW SUPPLY:					
Domestic Production:					
Crude Petroleum:					
Light	82,878	75,390	67,746	522,344	455,918
Heavy	8,449	8,013	7,838	57,098	55,898
Total crude	91,327	83,403	75,584	579,442	511,816
Natural gasoline	4,417	4,250	3,436	29,317	23,971
Benzol	264	257	229	1,790	1,608
Total production	96,008	87,910	79,249	610,549	537,395
Daily average	3,097	2,930	2,556	2,880	2,523
Imports:					
Crude petroleum	6,122	6,591	7,878	49,974	46,069
Refined products	3,176	2,426	782	14,249	7,690
Total new supply all oils	105,306	96,927	87,909	674,772	591,154
Daily average	3,397	3,231	2,836	3,183	2,775
Increase in stocks all oils	6,537	5,504	[3]3,687	53,758	22,071
DEMAND:					
Total damend	98,769	91,423	91,596	621,014	569,083
Daily average	3,186	3,047	2,955	2,929	2,672
Exports:[4]					
Crude petroleum	3,117	2,615	1,669	14,612	10,342
Refined products	12,358	12,383	12,731	78,047	82,376
Domestic demand	83,294	76,425	77,196	528,355	476,365
Daily average	2,687	2,548	2,490	2,492	2,236
Excess of daily average domestic production over domestic demand	410	382	66	388	287
STOCKS (end of month):					
Crude Petroleum:					
Pipe-line, tank-farm, and refinery:					
East of California	383,343	379,089	369,474	383,343	369,474
California[5]	140,076	136,327	113,878	140,076	113,878
Total crude	523,419	515,416	483,352	523,419	483,352
Natural gasoline at plants	1,156	1,356	476	1,156	476
Refined products	142,387	143,653	128,440	142,387	128,440
Grand Total Stocks all Oils	666,962	660,425	612,268	666,962	612,268
Days' supply[6]	209	217	207	228	229
Bunker oil (included above in domestic demand)	4,593	[3]4,544	4,116	30,406	29,628

[1]Revised. [2]Final figures. [3]Decrease. [4]Includes shipments to Alaska, Hawaii, and Porto Rico. [5]Includes fuel oil in California. [6]Grand total stocks all oils divided by daily average total demand.

XUM

Louisiana-Arkansas Field Notes

Dixie Area Has 17 Producers Despite Spotted Sand

SHREVEPORT.—Since the new Dixie oil field in Caddo Parish, nine miles north of Shreveport, was discovered, May 12, this field has been the most active in this territory during the summer, and produced a total of 110,828 barrels up to September 1.

There are now 17 producing wells in the district. Although a series of recent failures—in fact failures have been sandwiched in regularly between producers, due to the lenticularity of the Woodbine sand in this area—there is still a considerable play in the northeast part of the district. The Texas Company is the latest major to enter Dixie, having purchased 160 acres from the S. S. Hunter Estate in Sections 8 and 9-17-14, for a cash consideration of $40,000. The Texas Company is already rigging up its first test, Hunter 1, SE SE Section 8-19-14.

The total production in Dixie to September 1 is divided among the following companies: Standard Oil Company of Louisiana, seven wells, total yield, 22,318 barrels; Gulf Refining Company, five wells, total production, 63,635 barrels; Palmer Corporation of Louisiana, two wells, total production 1237 barrels; Ohio Oil Company, two wells, total production 3715 barrels; Sam Gold and associates, one well, total production 5992 barrels; Ray-Dawes Drilling Company, one well, total production 11,512 barrels.

The best producer in the field is the latest flowing well added, Ray-Dawes Drilling Company's Hunter 2, SW SW Section 9-19-14, which extended the field three-quarters of a mile northeast. This well between August 17 and September 1 had yielded 11,512 barrels. Location for an offset, Hunter 3, to the east in SE SW Section 9-19-14 has just been made. The Texas Company's new test is a western offset to Hunter 2. However, this well's daily yield, which was 1500 barrels on the first 24-hour gauge, has now dropped to 645 barrels daily.

Gulf Refining Company's Oden 1, 2, 3 and 4, all in Section 18-19-14, have made a total yield of 63,408 barrels while its Hunter 1, Section 17-19-14, has made 227 barrels. Gulf Refining Company's Oden 1, NE NE Section 18-19-14, was completed with the largest initial yield in the field, 3287 barrels. Its present daily yield is 71 barrels.

Palmer Corporation's two producers are Hunter A-1 and Hunter A-2, both in Section 8-19-14, the former being completed as a 40-barrel pumper and latter a 50-barrel pumper. The former's present daily yield is 15 barrels while the latter is completely dead. Their total yield to September 1 was 1237 barrels.

Ohio Oil Company's Hunter 1, Section 17-19-14, completed with 50 barrels initial production is still maintaining a daily yield of 45 barrels, having made a total of 3575 barrels. Hunter 2 in the same section making 20 barrels at first has dropped to five barrels daily. Its total yield has been 140 barrels.

Sam Gold and associates' Hunter 1, Section 17-19-14, has also been a consistent producer, having come in making 50 barrels daily and still maintaining 45 barrels daily with a total yield to September 1 of 5992 barrels.

A second effort to connect Dixie production with the older fields to the north ended in a failure during the last week when A. H. Tarver abandoned Glassell-Dickson 1, Section 31-20-14, 2½ miles north of production, as a salt water hole after plugging back to 2177 feet from 2470 feet.

Dixie's third new location made last week was J. E. Woodley's Pittman 1, Section 23-19-14, southeast of production.

Standard Oil Company of Louisiana has made excellent progress on its southern offset at 660 feet to the Ray-Dawes' Hunter 2 and is coring sandy shale at 2404 feet in School Board 1, NW NW Section 16-19-14. It probably will be the next completion for the field.

Deeper Drilling Successes

Fred McWilliams has decided not to drill Oden 1, Section 20-19-14 and has abandoned the location after starting to rig up.

Deeper sand exploration was very much to the front in North Louisiana during the week. Following immediately upon the heels of discovery of a new gas sand below 2900 feet in the Richland gas field in Hope Production Company's Eubanks 1, Section 26-17-6e, where five million feet of gas was tested in a drill stem test from 2922 to 2940 feet, 500 feet below former production, Magnolia Petroleum Company uncovered a new gas horizon in the Doss district of Monroe gas field in Ouachita Parish when it completed Fee 404 well 2, Section 12-19-5e, which gauged 11,888,000 cubic feet of gas from total depth of 2304 feet from 12 feet of sand. Rock pressure is 1010 pounds. This is 100 feet below surrounding gas production. Probably a more important development from a gas standpoint, however, was a gas blowout at 1854 feet in Harry Morgan and associates' Weatherbee 1, Section 21-19-11, Bossier Parish, a mile and a quarter south of the old Bellevue shallow field which yielded from the Nacatosh at 300 to 400 feet, the Woodbine and Blossom being entirely absent. This leads to the theory that the sand encountered by Morgan is the upper Trinity, which is found in Pine Island at 3600-3800 feet.

Morgan's well blew out while drilling was in progress, making an estimated gas production of 40 million feet daily with much salt water. The blowout occurred in a soft formation just after several feet of cap rock had been drilled through.

Magnolia Petroleum Company is arranging to test a show of oil in McCook and Hibbler 1, Section 22-21-10, Webster Parish, Cotton Valley district, encountered below 6800 feet. This test is North Louisiana's deepest hole. After coring hard sand from 6804 to 6813 feet and then coring red beds for three feet further, it was decided to make a drill stem test for an oil show encountered in the core.

Dixie Oil Company, which several days ago tested 150,000 cubic feet of gas in Robertshaw 92, Section 13-21-15, Pine Island, Caddo Parish, with total depth of 6351 feet, shot the hole at 6125 feet in an effort to increase the gas believed coming from that level. However, the gas volume was not increased. No announcement has been made as to what the next step will be.

Considerable improvement was made in initial production in the tri-state territory during the last week over the preceding week. Ten producers added 721 barrels new production during the week, as compared to 45 barrels from two small wells the week before. The last week also added eight gas wells. The only wildcat producer was Magnolia Petroleum Company's Roseberry 1, Section 19-23-9, Webster Parish, Shongaloo, which was standardized at 2770 feet and is making 104 barrels of oil and 88 barrels of salt water daily.

Four producers were added in Smackover, one in Champagnolle, and four in

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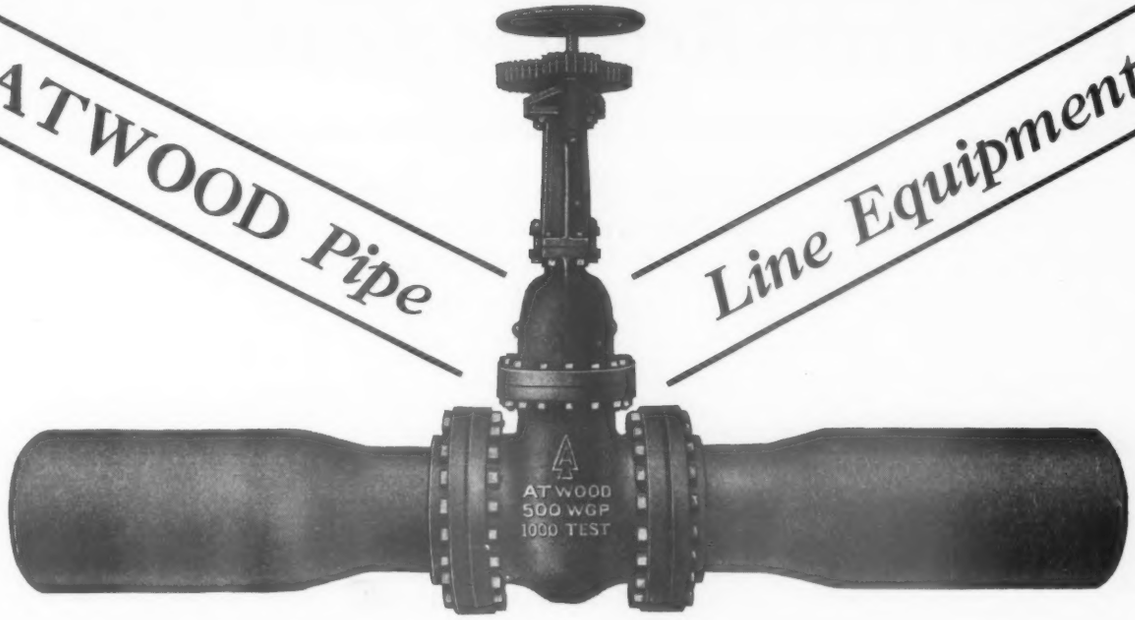

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News From Rocky Mountain Fields

Caddo Parish (Pine Island). Wildcat abandonments included George O. Baird's Tremont Lumber Company 1, Section 24-16-1w, Jackson Parish, which was dry at 3662 feet; S. R. Humble's Louisiana Oil Refining Corporation 1, Section 22-17-6e, Richland Parish, which was salt water at total depth of 2483 feet; and two wildcats in South Arkansas. The Ohio Oil Company abandoned Stout Lumber Company 1, Account 2, Section 30-16-13, Union County, as a dry hole at 3222 feet. Just over the line, in Calhoun County, Phillips Petroleum Company and associates met similar results in Freeman-Smith Lumber Company 1, Section 25-16-13, at total depth of 3332 feet.

Two wildcats were included among the six new locations announced in Arkansas. Lenz and associates are already drilling at 300 feet in Bossier Land Company 1, Section 13-15-26, Miller County, while Buck Oil Company is rigging up Taafe 1, NW NW Section 25-12-32, Little River County. Three new locations were made in Ouachita County, two for tests in Section 34-15-15, in the old Smackover field, now having revival of drilling, especially in the northeastern part of the field. Two old wells will be re-worked in the Union County side of Smackover, while in the south edge of Champagnolle, Magnolia Petroleum Company made locations in NW SW Section 15-17-14 for Schmidt 1.

Besides the locations in Dixie there were 11 other locations made in North Louisiana, including two wildcats. Triangle Drilling Company has location in Section 7-19-5w, Claiborne Parish, for Kilpatrick 1, while Eylers Oil & Gas Company plans to drill Chaffraix 2, Section 30-12-10, Red River Parish, an offset to the same company's 8½ million foot wildcat gasser completed a fortnight ago.

Hiawatha Dome

Rock Springs, Wyoming.—Two large gas wells were completed on Hiawatha Dome, lying partly in southern Wyoming and partly in northern Colorado. Ohio Oil Company's subsidiary Mountain Fuel Supply Company, completed its Newberger 1, at 2367 feet; it is good for about 23 million cubic feet of gas, and is not entirely drilled in. It is on the Wyoming side of the structure. More important, perhaps, was the completion of the Texas Production Company's Berlin 1 on the Colorado side; it is good for 19,596,000 cubic feet and its significance lies in the fact that the production was found in the gas sand at 1635 feet while the discovery well on Hiawatha found the gas at 2200 feet. This might indicate that the structure is rising to the southwest, or that it is a separate structure.

Get Two-Year Extension on New Mexico Permits

Denver.—Solicitor E. C. Finney of the Department of the Interior has recently announced that all permits belonging to The Texas Company and Marland Oil Company in Lea County, New Mexico, have been extended for a period of two years with the understanding that no drilling is to be done on them during that time. Marland Oil Company (now Continental Oil Company), holds 69 permits and The Texas Company holds 78. They were held for cancellation shortly after the so-called oil conservation edict of March 12, and this action was protested on the grounds that the companies had spent large sums for geology and drilling operations.

Important Montana Test

Augusta, Montana.—Earl Oil Company will drill a wildcat test in the Birch Creek-Sun River territory, about 13 miles north of this town, and a test has been spotted for Section 22-22n-8w, with contract let for immediate drilling. This structure is considerably similar to the famous Turner Valley structure, in southern Alberta, and for this reason the test will attract considerable interest from all operators in the Mountain States.

Pondera

Great Falls, Montana.—The Fulton Petroleum Company's Jones 2 was completed in the Pondera field a week ago, and thereby extended the proved area of the district considerably to the northwest. The well was good for 40 barrels. It checked higher than its offsets to the southwest. This test, and Warren Oil Company's well to the south, considerably improved the prospects of Pondera on the west side.

Black Mountain

Thermopolis, Wyoming. — Considerable interest has been manifest recently in the Black Mountain and the Warm Springs fields, the first 30 miles east of here and the second but six miles. Utah Oil Refining Company is erecting 55,000 barrels of steel storage tankage and is laying gathering lines to the tank from the six producing wells; a 30-day production test is to be made and if the production (about 2000 to 3000 barrels per day) proves satisfactory, Midwest Refining Company will lay a line from the field to the station at Lucerne, on the Burlington railroad, a distance of about 25 miles.

The Shaffer Oil Company is cleaning out and putting on production a number of its old shallow wells at Warm Springs anticline. The field will produce, it is estimated, about 300 barrels per day when all of the wells are on production. Crude is shipped from Thermopolis at the rate of about two carloads per day, to the White Eagle Oil & Refining Company plant at Casper.

Black Horse Lake Area to Get Tests

Great Falls, Montana. — Black Horse Lake structure, about six miles north of this city is the scene of several new activities recently started. The L. B. O'Neil interests have made location for a test to be started immediately, and on the heels of this announcement came one by Fred H. Merritt, a geologist representing Minneapolis capital, to the effect that his principals had purchased the Grove ranch of 2240 acres, adjoining the ranch on which the O'Neil test is located. It is understood that a part of this acreage is to be turned over to O'Neil. While there is no announcement as to how deep the O'Neil well is to be drilled, the drilling contractors have standard rig up and this is taken as an indication that the bit will penetrate far below the lime which will be found at a comparatively shallow depth. The "discovery" well on Black Horse Lake structure has succeeded in landing casing and will drill deeper.

Moving Black Oil

Casper, Wyoming.—Another supply of black oil which has stood shut in for some time past in central Wyoming was recently released when the Bessemer Oil Company started trucking about 540 barrels per day from its South Casper Creek leases to the White Eagle Oil & Refining Company plant in Casper.

Berthoud Dome

Denver.—Five Square Oil & Gas Company recently reported an interesting discovery on Berthoud Dome, in Larimer County, Colorado, where at 3780 feet its State 1A is producing about two million cubic feet of gas and 20 barrels of 40 gravity crude. Production is coming from broken sand and shale believed to be in the top of the muddy formation. A test will be made at the present depth, and if it proves not commercial it will be deepened. A well was drilled on Berthoud structure several years ago to a depth of more than 7000 feet, but made no worthwhile discoveries whatever.

Refinery Resumes

Kemmerer, Wyoming. — It is reported here that The Texas Company will resume the operation of its 100-barrel skimming plant at Calpet in the LaBarge field, and that the product will be disposed of locally.

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Barbers Hill Output May Lead Gulf Coast

HOUSTON. — Barbers Hill production during the week ending September 7 was estimated by the American Petroleum Institute at 22,550 barrels daily, as compared with 22,300 barrels daily the preceding week. The average of 22,550 barrels placed the field almost on a par with Spindle Top, the leading Coastal field, the average yield of the latter during the same period having been 23,800 barrels daily.

Since the rate of decline of Barbers Hill wells is relatively slow, and since a large number of wells are drilling, the field will probably assume first place in daily production within a few weeks. Although there is still much undeveloped production at Spindle Top, that field is largely controlled by one company, the Yount-Lee Oil Company, whose present efforts consist principally of deepening or working over old wells.

Wildcat Coring

On the northwest flank of the Barbers Hill dome Humphreys Corporation's Kirby A-8, a wildcat from the standpoint of deep production, is coring sand at 6085 feet. A similar test on the north flank, Mills Bennett Production Company's E. W. Barber 1, is drilling lime at 4414 feet; and the same company's Barrow 7, also a wildcat from the standpoint of deep production, is drilling shale at 4827 feet.

On the north end of the east flank Humphreys Corporation's Kirby H-4 is drilling at 2000 feet; Kirby H-5 is drilling lime and gumbo at 1428 feet; Kirby H-6 is rigging up; Kirby H-7 is rigging up; and Kirby C-2 is a derrick. In that part of the field also Mills Bennett Production Company's Smith 3 is drilling gumbo and shale at 2660 feet, and its Hamman-Armstrong 3 is a derrick. Texas Petroleum Corporation's McLean 3, also in that area, is waiting on cement to set at 5078 feet.

Besides the above mentioned deep test, Yount-Lee Oil Company is drilling one other well on the south flank of the dome: Chambers County Agricultural Association 8, which is down to 3182 feet in sand and lime.

On the south end of the east flank Republic Production Company's Kirby 2 is waiting on cement to set around casing at 5217 feet. Other operations in that area follow: Sinclair Oil & Gas Company's McKinney 1 is drilling lime at 4272 feet, and Wilburn 1 is drilling gumbo and lime at 3233 feet. D. B. McDaniels et al's Woodward 1 has set casing at 5037 feet, and Woodward 1 at 5110 feet. The Texas Company is rigging up on Wilburn 1. Grayburg Oil Company has made location for Wilburn 1. Mills Bennett Production Company is drilling gumbo and shale at 4705 feet in Collier 1. Sun Oil Company is drilling sand and lime at 4821 feet in Wilburn 1; lime at 5030 feet in McKinney 1; and sand and lime at 4072 feet in McKinney 2. Yount-Lee Oil Company's Kirby 1 is coring sand at 6400 feet; Woodward 1 has set casing at 5369 feet; Woodward 2 is drilling shale and lime at 3384 feet; and Woodward 3 is a derrick. Moody Corporation and Humphreys Corporation are drilling gumbo at 1541 feet in Collier 1, and have derrick up for No. 2.

HOUSTON — Yount-Lee Oil Company's Chambers County Agricultural Association 4, at Barbers Hill, the deepest test ever drilled in the Gulf Coast, was in shale at 8042 feet September 9, still drilling. This test is on the south flank of the dome, and is being drilled by rotary tools.

The only two wells in Texas, and incidentally the only two outside of California, deeper than the Barbers Hill well are two in Reagan County, West Texas: the world's deepest producer, the Texon Oil & Land Company-Group One Oil Corporation's University 1-B, 8523 feet deep; and Big Lake Oil Company's University 131, recently reported drilling around 8200 feet.

San Felipe Dome Test Abandoned in Cap Rock

Houston. — Kirby Petroleum Company has abandoned Vaughn 1, located in Waller County on the San Felipe dome. The test encountered cap rock at 3327 feet, and was abandoned after penetrating three feet of that formation. This test gave promise of developing into an oil well the latter part of July, when it showed some oil and gas through a drill stem test at 3005 feet, but when screen was set it flowed fresh water and was drilled deeper.

Kirby Petroleum Company well is the second abandoned on this dome, which was discovered by seismograph by the Gulf Production Company in 1927. The first test was Gulf Production Company's Jackson 1, located on the Austin County line of the dome. The latter part of 1928 is set casing on top of cap rock at 3230 feet, and the well flowed sulphur water, with a slight oil show, but was abandoned in a cavity at 3350 feet. The Kirby Petroleum Company test is one and one-fourth miles east of the Gulf Production Company test, which was reported to be near the top of the dome.

Sugarland Well Has 450-Barrel Initial

Houston.—Humble Oil & Refining Company, sole operator at Sugarland, completed one well, Sugarland Industries 9, in that field during the past week. It came in flowing 450 barrels daily at 3751 feet. Bankers Mortgage A-2 was reported nippling up September 10, casing having been set and cemented at 3502 feet. Deathridge 3 is a derrick. Hagenson 1 has set casing at 1257 feet. Brazos Farms 7 is drilling sticky shale at 3349 feet; Brazos Farms 8 is a derrick; Brazos Farms 9 is drilling sandy shale at 3217 feet. Hamner Fee 3 is a location; Hamner Fee 6 is drilling sticky shale at 1869 feet. Camp 8 is rigging up. Average daily production at Sugarland during the past week was 11,600 barrels.

Salt Flat Production Is Steadily Declining

Houston. — Salt Flat field, leading producing area of South Texas, is gradually declining in daily output, and during the week ending September 7 the daily average was 43,900 barrels. The peak of Salt Flat production was reached early this summer, when the daily average for one week was 52,000 barrels.

The field continues active, however, with Humble Oil & Refining Company engaged in drilling the north end of the pool, where most of the undeveloped acreage is located.

During the past week there were seven completions at Salt Flat, all but two by Humble Oil & Refining Company. That company finished C. F. Dye 7 for 300 barrels at 2692 feet; F. Gray 1-B was abandoned at 2833 feet; F. Gray 6-C was completed for 50 barrels at 2690 feet; Moses & Baggett 13-B came in for 300 barrels at 2691 feet; and T. A. Tiller 7 was completed for 300 barrels at 2664 feet. Nash-Windfohr-Perry's Davis C-3 was a 125 barrel well at 2746 feet. Shell Petroleum Corporation's Clyant Smith 2 was abandoned at 2688 feet.

XUM

Third Producing Sand Revealed At Liberty

HOUSTON. — Cranfill-Reynolds Company's Esperson 2-A on the newly productive Esperson dome, southwestern Liberty County, came in September 9 flowing 175 barrels daily of 21.8 corrected gravity crude from a new sand at 2270-76 feet. This completion proves up the third profitable sand of the field, although the first production was not developed there until August 15, 1929.

Esperson 2-A originally designated as Esperson 3, and two of the three commerical sands mentioned above have been revealed in this well. It was completed originally August 18, flowing 100 barrels fluid daily, two-thirds being 21.9 gravity oil, when 10 feet of screen were set at 1832 feet. After the well had flowed for several days, it was decided to make an attempt to increase production by resetting screen. Subsequently the well was deepened to its present depth.

The Esperson dome discovery well, Yount-Lee Oil Company's Moores Bluff Corporation 1, is flowing around 300 barrels daily, and the Yount-Lee Oil Company is reported to have made two new locations, No. 2 and No. 3, on the discovery lease.

Cranfill-Reynolds Company, operating the former Union Exploration properties, is drilling at 1400 feet in rock in Esperson 3-A, located 100 feet west of the field's discovery well, and is down 1100 feet in gumbo in Vajdak 1-A, located 125 feet north of the discovery well.

An idea as to the importance attached to this new dome is revealed through the fact that the lease on the 34.8-acre discovery tract was purchased, together with the discovery well, by the Yount-Lee Oil Company from Harvey S. Smith, Inc. for a total consideration of $500,000, including $250,000 cash and $250,000 to be paid from one-half of the first oil produced.

550 Barrels Flush Oil From Lockport Wells

Houston. — Vacuum Oil Company and Gulf Refining Company of Louisiana have completed two oil wells during the past week at Lockport, Louisiana. Bordages 7 came in flowing 250 barrels daily at 3766 feet. Fee A-3 came in producing 200 barrels pipe line oil daily at 3799 feet, and showing 1100 pounds pressure.

Lockport is one of the leading fields of Coastal Louisiana, with present production of approximately 3200 barrels daily.

Plan Conservation Development For New Guadalupe Pool

LULING, Texas.—Two direct offsets to the discovery well of the Manford pool, Guadalupe County, which was established August 28 when the Simms Oil Company and Penn Oil Company's wildcat test flowed 992 barrels of 37.5° gravity oil on 10 hour open flow test at 2418 feet, were started late last week. The discoverers are at work on their J. L. Manford 2, located 300 feet southwest of the producer, and the joint test of the Sun Oil Company and Empire Gas & Fuel Company is drilling ahead after cementing surface pipe on an east offset location to the discovery well.

Having failed to attract a pipe line connection or market outlet for the oil from the discovery well, the Simms Oil Company and Penn Oil Company are holding back production to 305 barrels daily through a one-quarter-inch choke, with 300 pounds back pressure. About 6000 barrels of small lease tankage has been erected at the well. Uncertainty as to the identification of the formation that the well is producing from has caused prospective crude purchasers to hold off on entering the pool with a line until more wells are completed, while the major pipe line companies now is the Luling district are inclined to pass up this pool to make certain of being able to take care of their own prospective production coming up in the Darst field, Guadalupe County.

The well is believed to be producing from the Taylor Marl, being above the Austin chalk horizon, at a total depth of 2418 feet, with a string of 6⅝-inch casing cemented at 2404 feet. Since this formation is normally non-productive of oil and gas in the district, the consensus of opinion is that the well struck the oil and gas in a crevice against the fault proper and the oil is rising from the Edwards lime horizon, which is topped about the 2700-foot level.

Officials of the Simms Oil Company have announced that a conservative development program will be abhered too, and the new test is to determine the importance of the strike and the source of the production. The company will install its own pipe line and tank car loading rack should no outlet for the oil be obtained after two or more producers have been completed.

According to a refinery analysis made by the Simms Oil Company, the Manford pool oil tests about 70° temperature when flowing through choke, with a gravity 37.5°, and .669 per cent sulphur content. The oil is green in color, and of a mixed base. The following yields were obtained from a test of the crude: 34.5 per cent gasoline, 55.7° gravity; six per cent kerosene, 41.1° gravity; 43.9 per cent gas oil, 32.9° gravity; 13.8 per cent residuum, 15.6° gravity; and 1.8 per cent loss.

Terrebonne Parish Well Blows In

Houston. — The Texas Company's Bay Coon Road B-2 (now called Bay St. Elaine 2), located on one of the Terrebonne Parish, Louisiana, domes acquired from the Louisiana Land & Exploration Company, blew in while drilling last week at 790 feet, with a gas flow estimated at 75-million cubic feet daily. The well is under control, and will be drilled deeper.

Three Failures Recorded At Raccoon Bend

Houston.—Humble Oil & Refining Company and Valley Oil Corporation completed three failures at Raccoon Bend during the past week. Bellville School Lands 2 was abandoned at 3628 feet. Hardy 5 had gone to 3643 feet. R. R. Jackson 1 was abandoned at 3542 feet.

The average daily production at Raccoon Bend is now around 8400 barrels.

Lamar Peninsula Test Will Drill Deeper

Houston. — United North & South Development Company's Edwards 1 on the Lamar Peninsula in Arkansas County, Texas, reached the contract depth of 4000 feet September 3, but it is being drilled deeper.

The well is on an 80-acre tract owned jointly by the United North & South Development Company and the Phalon Development Company.

Pettus Gas Field

Houston.—In the Pettus gas area, Bee-Goliad Counties, Mission Drilling Company's Ray 3, which about two weeks ago made a head of gas and 44.7 gravity oil at 4052-62 feet, will be drilled deeper, and tubing, liner and screen are now being pulled. Ray 4 in the same area has set surface casing at 250 feet. It is located in Bee County, while Ray 3 is in Goliad County.

Houston Oil Company is rigging up on McKinney 1, located in this same area.

Loreauville Dome

Houston.—Gulf Refining Company of Louisiana has abandoned State Z-10 on the Loreauville dome, Iberia Parish, Louisiana, in salt at 3590 feet. This dome was found by seismograph in 1926, and although approximately a score of tests have been drilled there, the only production has been from several small pumping wells.

Texas Production Again Sets Record Second Quarter

AN all-time record for oil production was established in Texas during the second quarter of 1929 when the gross receipts tax report from the comptroller's department credited the producing companies and individuals in the state with having recovered 71,767,617 barrels, valued at $74,562,244. Previous to the second quarter of this year, the first quarter of 1929 had held the record for recovered oil in the state with an accredited production of 69,541,834 barrels, valued at $63,520,489, which represented the lowest per barrel value figure recorded in the state since it became a major factor in the nation's supply of crude. The increase in the per barrel value of oil produced in Texas from 91 cents in the first quarter to $1.03 in the second quarter was mainly due to the general upward revision of Mid-Continent crude price structure which was put into effect May 20 and entailed boosts ranging from 10 cents to 48 cents per barrel. West Texas and North Texas particularly were effected by the price change.

There is nothing apparent at this writing which would argue effectively for either an increase or a decrease in production for the state during the third quarter. Weather conditions for the third quarter appear as favorable for production as they did in the second quarter. Texas Panhandle's substantial reduction brought about by an agreement of Gray County operators to refrain from bringing in wells other than those drilling as offsets to producers may be discounted by likelihood of considerable flush oil from new areas recently uncovered in West Texas. The discovery dates of other flush areas in Texas are too recent to permit them to change the complexion of the outlook for the third quarter.

Of the record production in Texas during the second quarter, 36,372,945 barrels were produced by the 10 leading operators. The value of this oil also was more than 50 per cent of the value of the state's total for the quarter.

Gulf Production Company, which has lead Texas producers in the amount of oil recovered since development of West Texas, continued in the lead with a total production of 7,594,007 barrels, valued at slightly less than one dollar per barrel. Second place went to Humble Oil & Refining Company with a production of 6,323,670 barrels valued at more than one dollar per barrel. The Texas Company, with a recovery of 4,047,495 barrels, was third place.

Rooster of Attendance at Galveston Meeting (*Continued from page 26*)

Jas. Hutcheson, Rio Bravo Oil Co.....Houston
O. W. Jones, Central Power & Light Co.....San Antonio
F. B. Judd, Republic Supply Co.....Houston
R. B. Kelly, Pure Oil Co.....Ft. Worth
H. P. Kemp, Humble Oil & Refining Co.....Luling
C. B. Kennedye, Kennedye-Plumb Corp.....Houston
N. V. Kinsey, Min. Div. State of Louisiana..Shreveport, La.
G. H. L. Kent, Humble Oil & Refining Co.....Houston
E. C. Kirby, Naylor Pipe Co.....Houston
K. K. Kreamer, Sinclair Oil & Gas Co.....Houston
T. H. Lankford, T. T. Word Supply Co.....Houston
W. D. Langley, Rio Bravo Oil Co.....Luling
E. C. Lawry, Shell Petroleum Corp.....Wichita Falls
Clarence O. Lee, Freeport Sulphur Co.....Freeport, Texas
Will T. Lewis.....Houston
W. W. Lewis, Rio Bravo Oil Co.....Electra, Texas
L. A. Little, Lufkin Foundry & Machine Co., Lufkin, Texas
L. L. Lookabaugh, Shell Petroleum Corp.....Dallas
W. T. Landy, Freeport Sulphur Co.....Freeport, Texas
C. A. McCollum, National Supply Co.....Houston
J. H. McEvoy, Jr., J. H. McEvoy & Co.....Houston
E. H. McFarland, Freeport Sulphur Co...Freeport, Texas
S. U. McGanz, Gulf Production Co.....Houston
L. E. McKinney, Rio Bravo Oil Co.....Beaumont
J. O. McPherson, Sun Oil Co.....Houston
J. R. McWilliams, Eng. Skelly Oil Co.....Tulsa
M. Manning, Humble Oil & Refining Co.....Houston
S. E. Manning, Houston Oil Field Mat. Co.....Houston
E. P. Martin, The Foxboro Co.....Dallas
G. E. Mackin, All Companies.....Luling, Texas
John N. Martin, Allis-Chalmers Mfg. Co.....Dallas
L. J. Maxwell, Lufkin Foundry & Machine Co....Houston
H. B. Mayes, McEverlast, Inc.....Houston
C. W. Metzger, Haynes Stellite Co.....Houston
Geo. J. Milburne.....Santa Barbara, Calif.
M. E. Montrose, General Electric Co.....Houston
B. L. Moore, Humble Oil & Refining Co.....Houston
Clif Moore, W. K. M. Co.....Houston
Geo. G. Moore, Root Refining Co.....El Dorado, Ark.
W. G. Moore, Texas Power & Light Co.....Dallas
Jas. A. Morgan, Camp Morgan Co.....Tulsa
W. E. Morrison, Rio Bravo Oil Co.....Wortham, Texas
C. A. Mulligan, Humble Pipe Line Co.....Houston
Fred Munhall, Christian Drilling Co.....Houston
Paul E. Nash, Vacuum Oil Co.....Houston
G. E. Nevill, Decker Oil Tool Co.....Houston
M. B. Nicholson, Humble Oil & Refining Co., Wichita Falls
Dale Nix, California Co.....Colorado, Texas
S. W. Oberg, Humble Oil & Refining Co.....Houston
J. B. O'Connor, Clark Engine Co.....Ft. Worth
Linn K. Park, Portable Rig Co.....Houston
M. H. Parks, Humble Oil & Refining Co.....Hempstead
H. E. Patter, Humble Oil & Refining Co.....Houston
Ernest H. Patterson, ...Houston
H. K. Penn, Emsco Derrick & Equipment Co.....Dallas
Irving A. Pfeil, Wails Dove-Hermiston Corp.....Houston
R. V. Plyer, Rio Bravo Oil Co.....Saratoga
J. C. Poulton, Shaffer Oil & Refining Co..Shreveport, La.
Lucien L. Powell, International Derrick & Equipment Co.....Houston
L. K. Raney, The Texas Company.....Ft. Worth
H. H. Ratcliff, Pelican Well Tool Supply Co., Lake Charles
F. W. Reese, Humble Pipe Line Co.....Houston
L. C. Rhoads, Cooper-Bessemer Corp.....Dallas
Gordon Richmond, Hughes Tool Co.....Houston
Goodson H. Rieger, Railroad Commission.....Houston
R. B. Roaper, Humble Oil & Refining Co.....Houston
D. S. Ross, Shell Petroleum Corp.....Midland, Texas
A. H. Rowan, Rowan Drilling Co.....Ft. Worth
C. L. Rowan, Rowan Drilling Co.....Ft. Worth
J. B. Russell, Jr., Gulf Production Co.....Houston
R. F. Ryan, Vacuum Oil Co.....Houston
W. H. Sanders, Jr., Rio Bravo Oil Co.....Houston
George Sawtelle, Kirby Petroleum Co.....Houston
M. H. Schirmacher, Houston Lighting & Power Co. .....Houston
G. B. Schneider, Sun Oil Co.....Beaumont
Aubrey William Schofield, Gulf Production Co...Houston
Melbert Schwan, Rio Bravo Oil Co.....Houston
K. C. Sclater, The Petroleum Engineer.....Tulsa
W. W. Scott, Humble Oil & Refining Co.....Houston
W. C. Schutts, Humble Oil & Refining Co.....Houston
M. E. Standfer, Humble Oil & Refining Co...Goose Creek
H. M. Stevenson, Humble Pipe Line Co.....Houston
M. G. Stewart, Pelican Well Tool & Supply Co. .....Shreveport, La.
Ben Taylor, Peden Iron & Steel Co.....Houston
T. D. Tedberry, Pelican Well Tool & Supply Co. .....Shreveport, La.
J. H. Teer, Layne & Bowler.....Houston
Clyde V. Temple, Humble Oil & Refining Co. McCamey, Texas
W. C. Thomas, Vacuum Oil Co.....Houston
W. H. Thompson, Oil Well Supply Co.....Houston
R. V. Stout, Regan Sales Co.....Houston
D. H. Thornbury, Frick-Reid Supply Corp.....Houston
W. C. Trout, Lufkin Foundry & Machine Co., Lufkin, Texas
E. N. Van Dugee, Shell Petroleum Corp.....Wink, Texas
Paul L. Vaudoit, Shell Petroleum Corp.....Houston
Thos. H. Wallace.....Houston
Wm. W. Walters, Layne & Bowler.....Houston
H. B. Weatherby, A. M. Byers Co.....Houston
R. E. Whiting, Atlantic Oil Production Co., Shreveport, La.
Oscar Wolf, The Texas Pipe Line Co.....Houston
C. A. Young, A. P. I.....Dallas
Marshall R. Young, Roeser-Pendleton, Inc...Albany, Texas
J. Zaba, Rio Bravo Oil Co.....Houston

XUM

Texas Quarterly Production Report Second Quarter, 1929

Leading Producing Companies of Texas, Second Quarter, 1929

Company—	Second Quarter 1929	First Quarter 1929	Fourth Quarter 1928	Third Quarter 1928	Second Quarter 1928
Gulf Production Company	7,594,007	7,173,134	6,300,385	6,250,518	6,319,764
Humble Oil & Refining Company	6,323,670	4,496,154	3,383,655	3,464,065	4,549,109
The Texas Company	4,047,495	3,606,194	4,067,572	3,991,443	3,293,960
Southern Crude Oil Purchasing Company	3,811,091	3,984,993	2,903,917	2,606,646	2,355,767
Shell Petroleum Corporation	3,345,651	3,555,869	3,358,633	4,096,142	3,178,997
Yount-Lee Oil Company	2,816,027	3,076,092	3,210,411	3,237,565	3,148,560
Magnolia Petroleum Company	2,568,770	2,726,878	3,031,049	2,957,372	2,847,060
Mid-Kansas Oil & Gas Company	2,088,399	1,171,851	1,611,634	1,365,334	1,611,634
Transcontinental Oil Company	2,068,706	1,762,573	.....	.....	.....
Phillips Petroleum Company	1,709,129	1,408,472	.....	.....	.....

Total of 10 leading producing companies in Texas for second quarter, 1929 ..... 36,372,945 barrels
Evaluation of same $36,862,756.00
Total production of all Texas producing companies for same period ..... 71,767,617 barrels
Evaluation of same $74,562,244.00

Name, Address—	Barrels	Amount
Andrews, W. R., et al, Putnam	1,178	1,608
Abraham, Earl, Bridgetown	566	864
Alworth-Stevens-Hild Company, New York, N. Y.	2,832	2,345
Amarillo Oil Company, Amarillo	2,392	2,511
Acorn Oil Company, Beaumont	9,703	11,815
Adamson, Peter, Jr., Tulsa, Oklahoma	.....	1,087
Adamson & Bearman, Cisco	1,886	2,811
Ailes, O. T. (June, 1927 to March 31, 1929) Wichita Falls	4,606	6,599
Atlas Oil Corporation, Humble	2,387	2,960
Alworth, T. J., Ranger	852	1,077
Alamo Oil Company, Brownwood	510	740
Arkansas Fuel Oil Company, Shreveport, Louisiana	19,578	29,755
Ada Belle Oil Company, Batson	25,142	30,782
Ama-Gray Oil Company, Amarillo	3,087	4,392
Alamosa Oil Company, Amarillo	42,322	38,162
Adams, Dr. W. B., Wichita Falls	470	705
American Maracaibo Company, New York, N. Y.	355,366	323,289
American Refining Properties, Wichita Falls	79,274	87,364
Apple-Brandeberry Oil Company, Wichita Falls	15,998	22,337
American Refining Properties, Wichita Falls	8,387	11,155
A. & P. Production Company, Houston	56,672	65,731
Ashe Syndicate, Fort Worth	953	1,310
Atlas Production Company, Burkburnett	1,804	2,383
Adams & McGahey & Osborne, Amarillo	1,303	844
Adams & Prince, Amarillo	20,971	27,114
Atlantic Oil Producing Company, Dallas	1,249,823	1,004,663
Ascot Company, Wichita Falls	8,077	12,781
Abercrombie, J. S., Company, Houston	152,791	173,741
Aarco Oil Gas Company, Baltimore, Maryland	10,162	15,085
Associated Oil Company, Tulsa, Oklahoma	679	827
American Refining Properties, Wichita Falls	1,391	2,012
American Refining Properties, Wichita Falls	1,872	2,648
American Refining Properties, Wichita Falls	3,453	4,922
Amerada Petroleum Corporation, Tulsa	446,897	382,110
Andrews Petroleum Corporation, New York, N. Y.	4,732	4,691
Alaskan Petroleum Company, Amarillo	1,532	1,824
Antelope Creek Oil & Gas Company, Amarillo	11,151	9,033
Arco Oil Company, Wichita Falls	16,965	17,804
Anchor Oil Company, Dallas	944	1,263
All-American Oil & Gas Company, Oklahoma City	42	56
Atkinson & Sandefer Oil Corporation, Breckenridge	12,135	15,781
Arnold, J. L., et al, Eastland	1,280	1,498
Artex Oil Company, Wichita Falls	1,499	2,123
Archer Drilling Company, Wichita Falls	3,397	4,950
Arab Gasoline Corporation, Eastland	384	673
Adamson, Peter, Tulsa, Oklahoma	700	943
Argus Oil Company, Inc., Brownwood	1,043	1,174
Bruce, A. D., Brownwood	608	778
Brownlee-Pope Oil Company, Austin	2,494	3,434
British American Oil Producing Company, Wichita Falls	6,728	9,704
Boller, C. W., Wichita Falls	6,469	9,306
Bowman Oil Company, Rockdale	806	1,088
Bluebonnet Oil Company, Wichita Falls	991	1,427
Beams, Drew, Okmulgee, Oklahoma	1,558	2,173
Bass & Dillard, Wichita Falls	10,370	14,064
Bourbon Royalty Company, Dallas	6,015	4,217
Barnes, J. B. Jr., Electra	5,809	7,317
Baker, James Blair Jr., and C. F. Camp, Trs., Wichita Falls	6,132	8,249
Baker, James Blair, Jr., and C. F. Camp, Trs. et al Wichita Falls	51,358	67,551
Baker, J. H., Breckenridge	1,092	1,419
Baker, Mollie B. and Fred R., Breckenridge	1,094	1,530
Baker, J. A. and Mollie B., Breckenridge	7,063	9,181
Bailey, Fannie, Wichita Falls	1,154	1,666
Byrd & Golston (Oct. 1, '28 to March 31, '29), Brownwood	7,465	11,719
Boysen, B. S., et al, Brownwood	700	630
Best, M. C., Albany	635	712
Bohner, C. F. (Mch), Kansas City, Kans.	64	81
Barkley, Gholson, et al (Mch), Ranger	103	133
Baker Bros. (Aug. 1928 to March 31, 1929), Brownwood	1,200	1,134
Breeding & Hutson, (Mch), Rising Star	1,283	1,919
Brown & Lickey (Oct. 1928 to March 31, 1929), Wichita Falls	520	728
Blue Bonnet Petroleum Corp., Somerset	858	973
Borman, F. J. (Mch), Cisco	929	1,188
Borealis Oil Co., Oklahoma City, Okla.	3,529	5,241
Bullington, Lee Pendleton & Bullington, Wichita Falls	13,474	19,195
Bullington-Clark, et al, Wichita Falls	5,676	5,301
Britton & Gordon, Strawn	691	1,045
Benedum-Trees Oil Co., Pittsburgh, Pa.	38,636	34,772
Beggs, Geo., strip, Fort Worth	2,392	3,991
Barkley & Meadows, Fort Worth	8,281	4,177
Bexata Oil Company, San Antonio	1,402	1,605
Big Lake Oil Company, Pittsburgh, Pa.	1,156,287	1,421,785
Black Diamond Oil Company, Amarillo	921	977
Bohner, C. F., Kansas City, Kans.	93	118
Black, W. A., Midland	930	1,005
Brooks & Hanlon, Inc., Tulsa, Okla.	612	804
Burris, Joe D., et al, Cross Plains	1,260	1,673
Burton, C. P., et al, Wichita Falls	26,261	36,913
Bynum, W. W., Estate, Rockdale	1,010	1,343
Big Indian Oil & Development Co., The, Gainesville	1,091	1,560

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Strongest Rotary Chain Yet Developed

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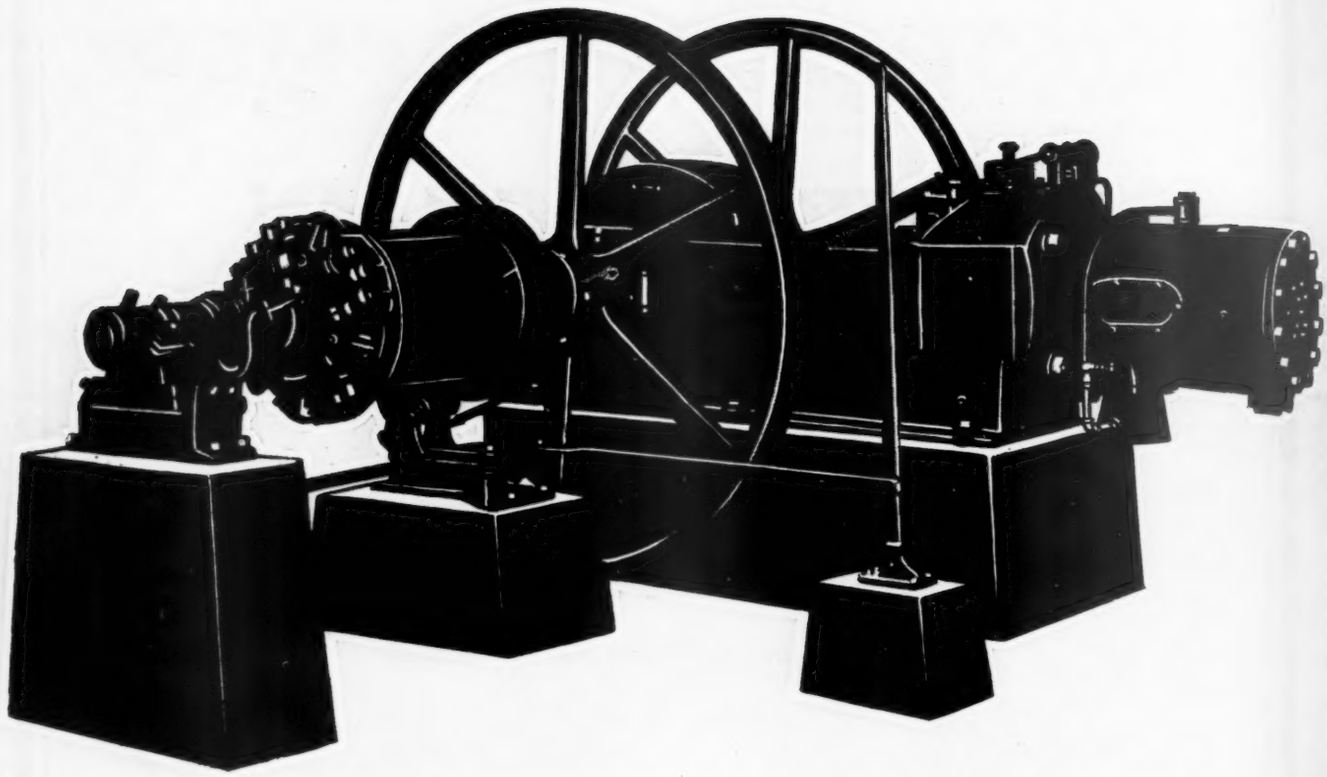

Bessemer Type O. F. gas engines are the 2-cycle, horizontal, single-cylinder, single-acting type built in 25, 30, 35, 40 and 50 B. H. P. sizes. Entirely enclosed—employing combination force-feed and splash lubrication. Mixing valve on top of bed-plate. Counter-balanced crankshaft, adjustable crosshead, removable sideplates. Furnished with either Bessemer babbitt shell bearings or Timken roller bearings, both over-size and adjustable.

BESSEMER

PUMPING AND DRILLING ENGINES BY COOPER-BESSEMER

A statement covering the future policy of The Cooper-Bessemer Corporation on the building of engines for pumping and drilling work.

Because of their satisfactory performance "Bessemer" pumping and drilling engines have become well known and liked by oil and gas field men. The design of these engines is the result of over thirty years engineering study and constant improvement.

It will probably be interesting to the men who buy and operate pumping and drilling engines to learn that there will be no change in manufacturing policies. The types of engines which have proved so popular for this kind of work in the past will be continued as an important part of the Cooper-Bessemer complete oil and gas field engine line.

The combined engineering staffs of the two divisions of the present company will work to further improve these engines. Both material and designs will be changed from time to time to meet changing conditions or to overcome difficulties which are disclosed by field operation.

The standards of satisfaction in engine performance are constantly being raised. Cooper-Bessemer engines will continue to maintain their position of leadership in establishing these higher standards.

THE COOPER-BESSEMER CORPORATION

Formerly

THE C. & G. COOPER CO. MOUNT VERNON, OHIO

THE BESSEMER GAS ENGINE CO. GROVE CITY, PENNSYLVANIA

Branches in all principal oil and gas fields

TYPE O. F.

PUMPING ENGINES

For Strength and Uniformity Use

Wire Rope Stocks
carried in the Oil Fields

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WICKWIRE SPENCER SALES CORP.
41 East 42nd St., New York City

District Office:
1304 The Philtower
Tulsa, Okla.

WICKWIRE SPENCER
UNIFORM WIRE ROPE

Name	Address	Barrels	Value
Bowers Oil Company, a Trust Assn., Vernon		1,216	1,666
Bynum & Palmer, Rockdale		162	221
Butler, F. E. & E. R. Perkins, Olney		936	1,310
Buttram Petroleum Corp., Oklahoma City, Okla.		45,902	70,705
Bril, Wm. N., Van Ormy		32	38
Biggs Oil & Gas Co., McKinney		950	1,442
Baird Oil Co., Putnam		200	256
Bailey, Carl B., Wichita Falls		7,011	10,291
Barbara Oil Co., Oklahoma City, Okla.		5,750	9,160
Bridwell Oil Co., Wichita Falls		30,972	39,422
Bridwell & Heydrick, Tr., Wichita Falls		1,920	2,886
Boardman & Ulrich, Rice		947	1,270
Brown, A. J., Fort Worth		1,562	2,030
Burns, L. T., Wichita Falls		39,382	57,675
Bartlett, William & Co., Electra		236	346
Bashara, M. J. & Sons (Mch), Wichita Falls		3,857	4,465
Bashara, M. J. & Co., Wichita Falls		2,070	2,306
Brownwood Producing & Refining Co., Brownwood		1,194	1,586
Baldwin, F. C., et al, Fort Worth		2,139	3,257
Broderick & Calvert, Fort Worth		320	486
Beaver Oil Corp., Oklahoma City, Okla.		8,769	9,775
Blair & Kell, Dallas		665	776
Burkburnett Production Oil Trust, Baltimore, Md.		527	790
Bartlett Production Co., Rockdale		1,004	1,382
Bridwell & Mayfield, Wichita Falls		5,870	8,020
Braden Co., The, Eastland		2,182	3,336
Big State Oil Corporation, Dallas		372	459
Badger Oil Co., Amarillo		12,225	14,483
Bashara, J. F., Houston		6,554	8,179
Bell, E. S., Wichita Falls		479	665
Bradstreet, L. G., Co., Fort Worth		33,940	50,008
Brown Farm Oil Co., Wichita Falls		7,399	11,222
Bailey, Fannie, Wichita Falls		259	385
Burks-Greis Oil Co., Tulsa, Okla.		2,587	3,862
Baker & Pardue, Breckenridge		2,268	3,213
Bell Oil & Gas Co., Tulsa, Okla.		29,112	31,291
Brannon & Murray, Cisco		4,451	6,594
Breeding & Hutson, Rising Star		1,040	1,644
Brady Bros., Minerva		1,141	1,526
Barnsdall Oil Co., Tulsa, Okla.		35,853	45,996
Black Cat Oil Co., Electra		824	1,131
Brown, Mrs. Carrie, L., et al, Orange		18,689	23,284
Brown, Dr. E. W., Estate, Orange		871	1,105
Beverink, A. H., et al, Henrietta		1,639	2,214
Barkley, Gholson et al, Ranger		405	550
Barkley & Conway, Ranger		8,855	14,186
Beasley Prod. Co., Electra		1,041	1,707
Barkley & Crotty, Ranger		5,005	6,943
Barkley, Crotty, Six and Little, Ranger		894	1,150
Brazos River Gas Company, Wichita Falls		225	375
Brown & Guinn, Wichita Falls		375	558
Bohner, Crenshaw & Whitehill, Burkburnett		6,643	8,793
Bohner, C. J., et al, Burkburnett		15,055	21,314
Brown & Lickey, Wichita Falls		1,453	1,982
Caudle, Fifer, Rockdale		318	486
Cockrell, McIlroy Oil Co., Inc., Amarillo		154,098	204,030
Carey, E. S., et al, Wichita Falls		640	813
Carey, E. S., et al, Wichita Falls		169	187
Central Oil Company, Cameron		3,542	4,140
Collins, J. L. & Co., Corsicana		751	1,015
Clark, R. R., Wichita Falls		15,504	22,788
Crenshaw, Albert, Wichita Falls		1,913	2,764
Curry, E. M., Cross Plains		912	1,378
Curtis, J. A., Wichita Falls		1,736	2,549
Cuno, Mrs. Bertha, Moran		1,417	1,836
Carson, Usher, Laredo		3,086	2,709
Culbertson Company, Wichita Falls		12,159	17,998
Cushing Refining & Gasoline Company, Cushing, Okla.		8,045	6,278
Clem Oil Company, Houston		355	355
Cable, Jo H., Wichita Falls		1,064	1,493
Caldwell, John W., Wichita Falls		239	313
Cooper, O. R. (Mch), Ranger		2,658	3,510
Currie Oil Corporation (Mch), Washington, D. C.		790	1,164
Cezeaux & Martin (Sept. 1928), Humble		5,141	6,168
Cook, R. H. (Oct. 1928 to March 31, 1929), Electra		403	566
Chandler, G. B. (Year 1928), Jacksboro		2,947	3,537
Central Texas Refining Company, Corsicana		16,712	22,121
Clarkson, William, Jr., Corsicana		3,085	4,309
Crabb & McNeel, San Angelo		1,188	1,571
Craig & Lowrie, Pittsburgh, Pa.		1,501	1,720
Cornhusker Oil Company, Lincoln, Neb.		1,986	1,680
Connell-Sixon-Frazier, El Dorado, Kans.		1,559	1,887
Columbia Petroleum Company, Mirando		7,589	6,455
Chapman, O. H., Waxahachie		191	224
Chenault, W. L., Amarillo		578	849
Canyon Oil & Gas Company, Inc., Cross Plains		1,345	2,074
Camp Oil & Gas Company, Wichita Falls		1,198	1,710
Cox, Edwin B., Ardmore, Okla.		2,453	3,486
Cunningham, E. J., et al, Coleman		15,841	17,833
Chandler, G. B., Jacksboro		868	1,042
Church & Weekley, Fort Worth		26,251	19,875
Continental Oil Company, Wichita Falls		576,472	728,514
Cunningham & Bratcher, Loving		4,942	5,892
California Company, Dallas		1,507,015	1,207,357
Camel Oil Company, Pampa		7,083	8,994
Coffield & Hale, Rockdale		1,870	2,487
Conner Son & Cloughley, Gotebo, Okla.		9,307	13,705

An Abandoned Well and SALVAGE !

Annually, there are many wells abandoned in many fields. Do you get the full salvage value from these wells on an economic basis? Methods of reclaiming this equipment have been developed whereby operators may remove all pipe, etc., on a basis that is reasonable.

SEE these items of equipment in THE COMPOSITE CATALOG of Oil Field and Pipe Line Equipment. Various manufacturers explain their equipment theirin, in plain their equipment therein, in making a proper selection.

Some manufacturers describe machines for pulling the casing from these wells. It is well established that much pipe and casing now in service still has life, if it could be salvaged without too much damage.

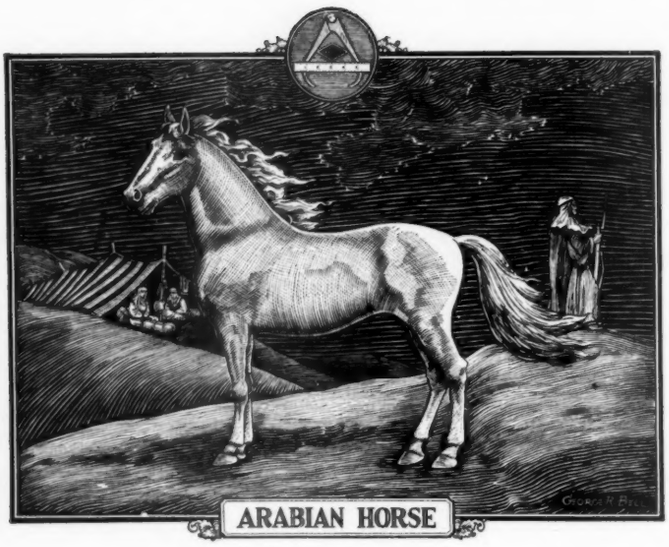
Other manufacturers show a cutting tool, some of them inside cutters, others outside cutters. All designed to remove the casing from wells. Either to salvage a part of the string, or to drill deeper in the same hole.

A selected list, received the COMPOSITE CATALOG. If you were on this list, use the Catalog. If not on the list, you will find one near you. USE IT. It was published in response to a definite demand from OIL MEN everywhere, for your convenience in making intelligent selections of equipment. Tell the manufacturers where you saw their descriptions. Their cooperation made the book possible.

The COMPOSITE CATALOG *of* OIL FIELD *and* PIPE LINE EQUIPMENT

Published by The CATALOG DIVISION *of*
The GULF PUBLISHING COMPANY, Houston, Texas, U. S. A.

XUM



QUALITY

A characteristic of the Arabian Horse and also of the products manufactured by The Garlock Packing Co., Palmyra, N.Y.

ARABIAN horses were originally obtained from the Libyan tribes of Northern Africa. By long and careful mating the superior type has been maintained through many centuries. The breeding and raising of the Arabian horse is closely supervised and controlled by the owners so as to obtain certain desirable qualities such as endurance, strength, intelligence, tractability and fine appearance.

Realizing that quality in commodities, as well as in domestic animals, is secured by years of close supervision of details, The Garlock Packing Company has continually striven in the past quarter of a century to build products whose body structures and treatments are basically right to meet the requirements of an economical and satisfactory packing service.

This fundamental characteristic of Garlock manufacturing processes has merited the descriptive name *Quality Controlled Packings* for their products.

Name	Address	Barrels	Value
Cromwell, Carl G.,	San Angelo	8,784	6,721
Corpus Christi Oil Company,	Corpus Christi	434	347
Cole, W. C.,	Wichita Falls	1,908	2,758
Clear Lake Oil Company,	Rockdale	1,185	1,561
Cashdollar & Snydor,	Brownwood	260	322
Canary, S. C., et al,	Tulsa, Okla.	524	756
Callihan, Geo. & Carter Dev. Company,	Albany	966	1,216
Conway Bros. & Gholson,	Ranger	124	181
Conway Bros.,	Ranger	2,255	3,655
Conway Bros. & Champion,	Ranger	2,097	2,559
Conway Bros. & Woodson Oil Company,	Ranger	1,530	2,061
Caruthers Company,	San Antonio	1,646	1,807
Cranfill Bros. Oil Company,	Wichita Falls	4,904	7,389
Cosden Oil Company,	Fort Worth	359,903	312,591
Continental Supply Company,	St. Louis, Mo.	427	527
Cisco Oil Company,	Tulsa, Okla.	25,896	32,152
Crosbie, J. E., Inc.,	Tulsa, Okla.	15,098	16,115
Corsicana Oil & Refining Company,	Corsicana	30,600	21,720
Crown Central Petroleum Corporation,	Houston	54,149	45,790
Curley & Newell Oil Company,	Burkburnett	215	317
Crown Oil & Refining Company,	Houston	12,985	16,210
Cullen, H. R., et al,	Houston	12,647	14,537
Cullen and West Production Company,	Houston	433	498
Chapman, P. A., Estate,	Waxahachie	13,976	18,477
Culbertson Bros. Company & Corvette Oil Corporation,	Fort Worth	7,789	5,213
Cosden, J. S., Inc.,	Fort Worth	4,474	6,023
Clay, J. D.,	Houston	1,404	1,638
Cranfill Bros. Oil Company,	Dallas	133,819	94,106
Charter Oil Company,	Brownwood	20,031	30,053
Campbell, Alma,	Fort Worth	1,246	1,763
Collier, J. W., & E. Mabel,	Markley	295	356
Champlin Refining Company,	Enid, Okla.	51,055	58,275
Cranfill & Reynolds,	Cisco	304,152	316,105
Clark-Buffalo Oil Company (To March 31, 1929),	Buffalo, N. Y.	19,782	23,577
Clark-Buffalo Oil Company,	Buffalo, N. Y.	4,777	4,953
Christie Brothers,	Wichita Falls	7,580	10,975
Carey, C. W.,	Wichita Falls	4,099	5,443
Carter, Roy I.,	Wichita Falls	18,017	16,329
Coppock & Coleman,	Iowa Park	13,265	20,304
Currie Oil Corporation,	Washington, D. C.	707	940
Cosa Oil Company,	Cisco	236	368
Center Field Oil Company,	Amarillo	363	294
Capitol Oil Company,	Orange	1,177	1,432
Castleburg, S. A.,	Vernon	210	220
Crosscut Corporation,	Fort Worth	1,197	1,741
Chestnut & Smith Corporation,	Tulsa, Okla.	6,621	9,206
Consolidated Oil Company of Texas,	Wichita Falls	59,443	80,736
Carlin & Tobin,	Ranger	628	998
Carlin, W. W.,	Ranger	676	1,081
Clark, C. W.,	Wichita Falls	60	90
Cohen, Aaron,	Baltimore, Md.	6,767	10,472
Davis, Caroline A.,	Somerset	343	376
Dixie Drilling Company,	Fort Worth	95	138
Dixon Creek Oil Company, Inc.,	Amarillo	77,990	78,438
Dunlop, Robert,	Ponca City, Okla	9,759	14,706
Douglas Oil Company,	Tulsa, Okla.	1,804	1,796
Dorian, R. P.,	Wichita Falls	16,797	23,053
Danciger Oil & Refining Company of Texas,	Fort Worth	171,867	237,262
Duke-Langford Oil Company,	Wichita Falls	5,226	4,180
Dudley Oil Gas Development Company,	Abilene	12,491	18,737
Developers Oil & Gas Company,	Wichita Falls	799	1,065
Davidson, Robert, et al,	Corsicana	900	1,242
Deaner, J. J.,	Okmulgee, Okla.	2,589	3,536
Dale & Crawford,	Electra	667	948
Dale Oil Corporation,	Wichita Falls	2,703	4,003
Deutser, B., Tr.,	Beaumont	3,097	3,890
Dunigan et al,,	Pampa	1,400	1,553
Duffield & Howard Oil Company,	Tulsa, Okla.	486	592
Dalton, Jack, Oil Company,	Fort Worth	1,871	2,630
Douglas Brothers Oil Company,	Electra	2,856	4,218
Douglas Production Company,	Electra	1,766	2,486
Davis, Louise Reyman,	Tulsa, Okla.	57	57
Dull Earle Texas Company,	Albany	48,231	67,110
Darby Petroleum Corporation,	Tulsa, Okla.	4,770	5,560
Dillon & Glasscock Company,	San Antonio	522	558
Dominion Oil Company,	Tulsa	1,319	1,797
Dyck Oil Company of Texas,	Tulsa, Okla.	683	536
Double Five Oil Company,	Amarillo	1,737	1,928
Dean Oil Company,	Burkburnett	287	1,100
Dixie Oil Company, Inc.,	Shreveport, La.	84,481	61,655
Devonian Oil Company,	Tulsa, Okla.	25,295	28,710
Dittman Drilling Company,	Fort Stockton	452	461
Deering, John A.,	Houston	10,046	13,058
Dudley, G. S.,	Iowa Park	1,591	2,545
Dale-Knotts Oil Company,	Wichita Falls	293	420
Dallas Petroleum Company,	Houston	398	621
Dennis, J. S.,	Moran	1,727	2,302
Dunaway, J. E., et al,	Wichita Falls	9,752	14,211
Dunigan Bros.,	Breckenridge	540	642
Delmar Oil Company et al,	Bartlesville, Okla.	25,878	35,352
Derby Oil Company,	Wichita Kans.	15,395	24,245
Derby Oil Company,	Wichita, Kans.	5,646	6,225
Derby, A. L. & E. A. Haines,	Wichita, Kans.	7,185	7,524
Derby, Haines & Williams,	Wichita, Kans.	2,081	2,129
Duquesne Oil Corporation,	Eastland	236	357

NATIONAL TANK COMPANY

Exhibits at the International Petroleum Exposition

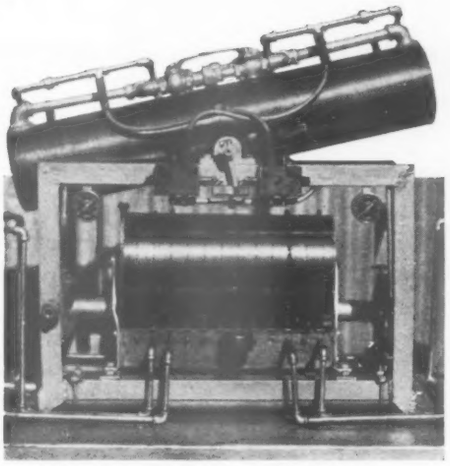
BULK SEPARATION WITH MIST EXTRACTION—CLEAN GAS AND HIGHER GRAVITY OIL.

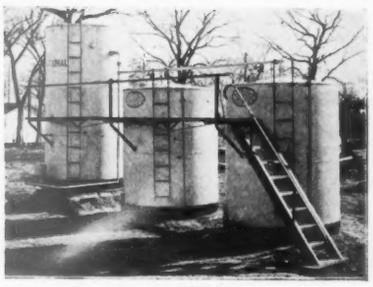
See why NATIONAL SEPARATORS answer oil field requirements in every detail.

See how SEPARATION is made by the application of NATURAL LAWS, PLUS PROPERLY DESIGNED INTERIOR CONSTRUCTION, giving the most complete extraction of the light elements.

See how and why NATIONAL AUTOMATIC AIR-GAS LIFT INTERMITTERS perform a most economic service.

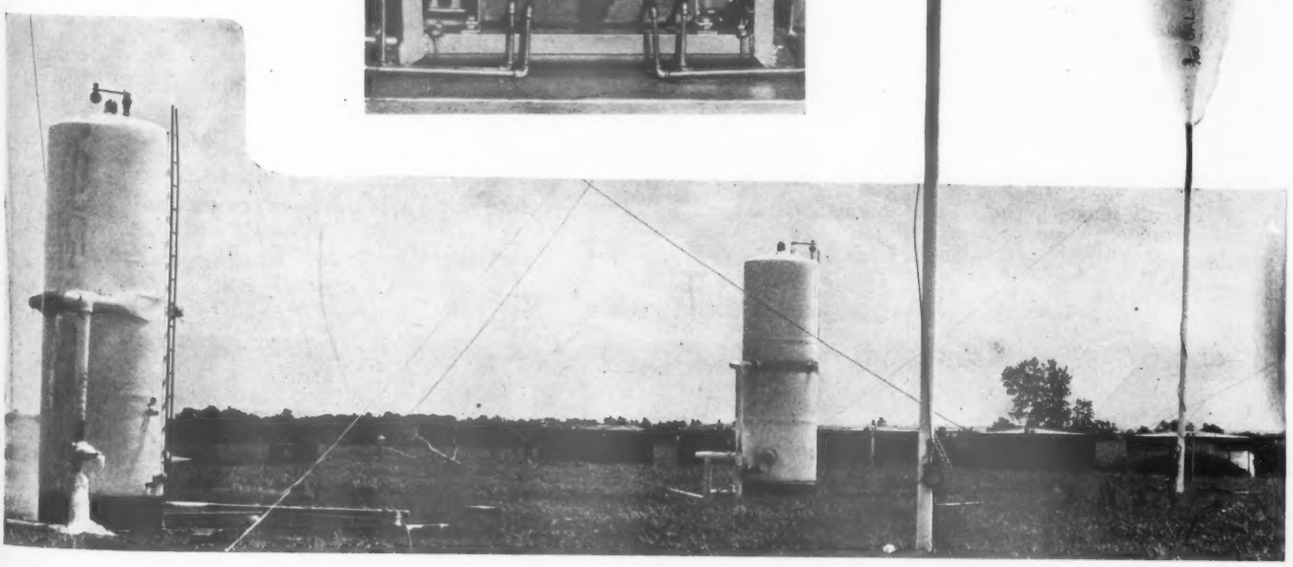
See why NATIONAL WELDED OIL FIELD TANKS better serve oil field requirements.





100% Conservation Battery

(BOOTHS 99 AND 112, TEXAS BUILDING, OUTSIDE SPACE, LOT B.)



NATIONAL TANK COMPANY
TULSA, OKLA.

SAVE WITH SECO

The Seco Valve is by far the most economical valve on the market. It will outlast the average valve four or five times. More than that, this new drop-forged steel taper-seated valve can be had for less money than old style cast-steel, flat-seated type.

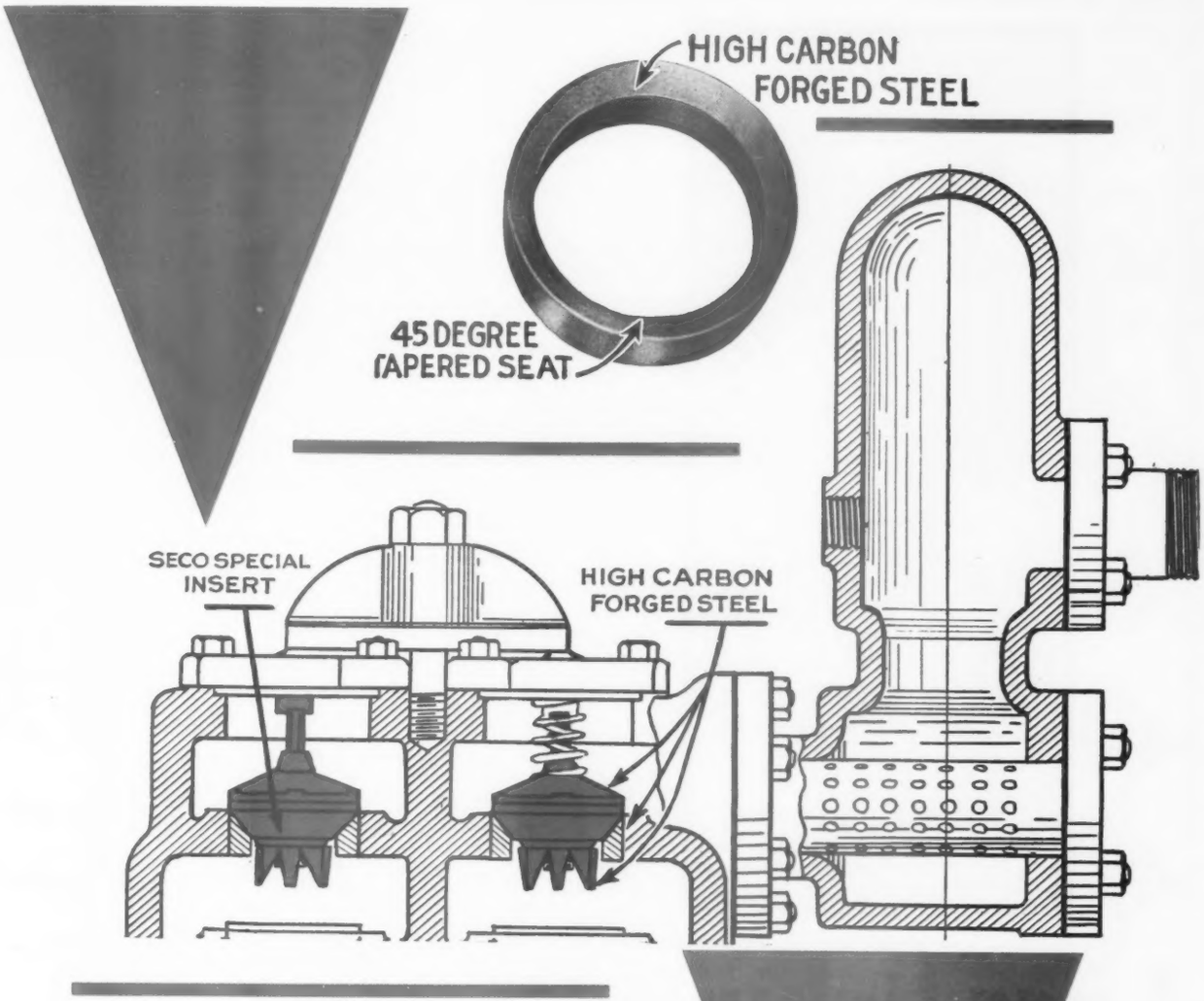
The Seco Straight-Shot Valve is made for all makes and sizes of pumps. It is particularly adapted to slush, hot and cold water, gasoline and hot oil up to 300 degrees. All parts are made of high carbon forged steel except the inserts which are of a special make and which have shown in many instances to give 100% more service than any insert ever used. The forged steel used prevents gritty fluids from eating into metal as it does with cast parts.

MISSION

Sales Company, Inc.,

Esperson Bldg.

HOUSTON



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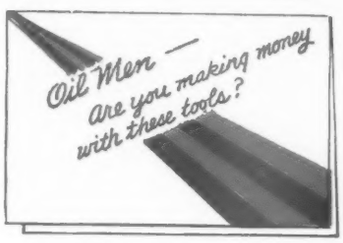
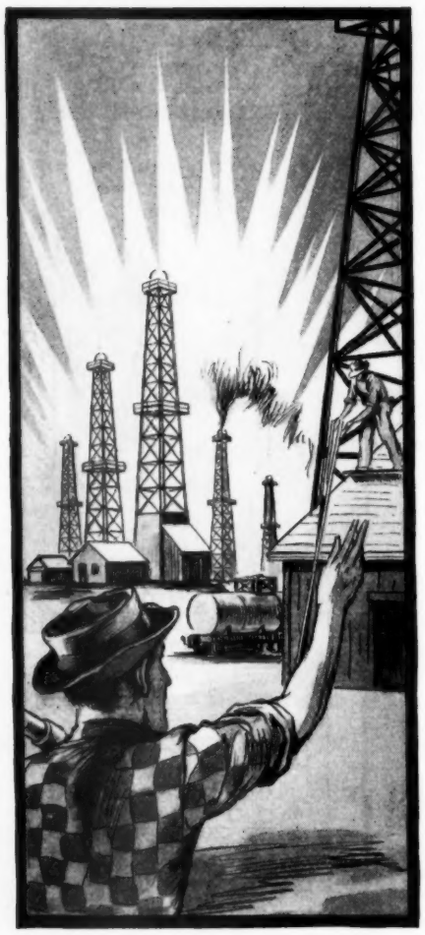


MISSION

Sales Company, Inc.,

Esperson Bldg.

HOUSTON



Less fishing—more drilling

"Let 'er go"—no worry now about tough rock—we have a bit made from ASCO Well Bit Tool Steel. There is no reason to slow up.

A broken bit may mean expensive fishing—loss of time—labor and money.

But these problems are made less costly with ASCO Well Bit Tool Steel.

A bit made from ASCO Well Bit Tool Steel will challenge the toughest of rock formations—eat its way through by steady drilling.

Where operating conditions are most severe, ASCO Well Bit Tool Steel is the most dependable.

THE ANDREWS ASCO STEEL CO.
NEWPORT KENTUCKY

Name	Address	Barrels	Value
Engel, E. A.,	Albany	20,831	31,064
Ewno Oil Corporation,	Abilene	629	767
Easter Oil Corporation,	Wichita Falls	20,593	29,130
Empire Gas & Fuel Company,	Bartlesville, Okla.	402,100	485,858
Eubanks, R. O. & B. K.,	Cross Plains	1,442	1,970
Ewing, G. W.,	Breckenridge	6,954	8,922
Ellis & DuBose,	Fort Worth	1,067	1,315
Electro Production Company,	Electra	995	1,436
Eddy Oil Company,	Beaumont	562	685
East Batson Oil Company,	Batson	16,243	20,225
Erie Investments Limited of Texas,	Toronto, Canada, (Rockdale)	524	681
Erickson, Selma E.,	Wichita Falls	86	125
Ernest Oil Company,	Rockdale	276	359
Ellis & Lancaster,	Beaumont	426	537
Easton, E. S.,	Wichita Falls	1,540	2,228
Eggers, J. E., Tr.,	San Antonio	551	631
Eastland Oil Company,	Fort Worth	116,911	135,634
Eddlemon & Payne, Inc.,	Wichita Falls	9,568	14,298
Emrick & Wallace,	Minerva	301	416
Ellis & Anderson,	San Antonio	114	131
Farish & Ireland Lease,	Houston	6,735	8,415
Fort Ring Oil & Gas Company,	Fort Worth	228	336
Fort Bend Oil Company,	Houston	17,890	22,294
Fort Bend Oil Company et al,	Houston	21,701	24,983
Fultz, W. B., et al,	Graham	604	801
Fultz, W. B., et al,	Graham	1,780	2,588
Finley, Knox,	Wichita Falls	11,270	23,177
Fuchs, Fritz,	Taylor	72	105
Fountain Production Company,	Saratoga	1,930	2,438
Fultz, W. B., et al,	Graham	6,726	9,886
Fresno Oil Company,	Wichita Falls	31,590	45,174
Freeman-Hampton Oil Corporation,	Wichita Falls	879	1,307
Freeman-Hampton Oil Corporation,	Wichita Falls	4,891	7,178
Freeman, J. H.,	Wichita Falls	7,336	10,585
Fox & Adams,	Burkett	13,652	15,722
Franklin, Wirt,	Ardmore, Okla.	823	1,204
Forster, A. R.,	Coleman	370	523
Ferguson, W. R.,	Wichita Falls	447	625
Four Oil Company,	Wichita Falls	2,309	3,152
Farlyn Oil Company,	Houston	13,307	9,562
Fisher, J. A.,	Wichita Falls	1,150	1,694
Frontier Oil Company,	San Antonio	9,975	12,422
Flynn, W. B.,	Beaumont	6,081	7,510
Fleming and Kimbell,	Sherman	4,115	3,320
E. H. E. Oil Company,	Sherman	18,792	25,990
Falls Production Company,	Wichita Falls	5,474	7,811
Fain-McGaha Oil Corporation,	Wichita Falls	478,951	664,126
Freeborn & Sargent,	Cisco	5,084	7,520
Fogle Oil Company,	Minerva	1,405	1,860
Gunn Production Company,	Cross Plains	1,333	1,733
Gulf Production Company,	Houston	7,594,007	7,424,363
Golding & Cochran,	Wichita Falls	35,449	51,401
Golding, Dudley S.,	Wichita Falls	10,031	13,041
Gultex Production Company,	Waxahachie	2,269	3,395
Green, James H., & Company, Inc.,	Brownwood	812	1,110
Godley Oil & Gas Company,	Dallas	28,692	29,699
Gaither Production Company,	Rockdale	763	1,031
Grass Roots Oil Company,	Fort Worth	3,985	5,418
Gilbert Company,	Beaumont	7,313	9,146
Gray, G. M., et al,	Coleman	1,628	1,944
Gladis Oil Company,	Saratoga	3,166	3,312
Glenridge Oil Corporation,	St. Louis, Mo.	3,537	4,515
Glass Brothers,	Rockdale	722	950
Gates-Bacon-Lea,	Wichita Falls	5,931	8,030
Gholson, Jno. M.,	Ranger	11,196	15,582
Ginter Jones Oil Company,	San Antonio	512	604
Ginter Lange Oil Company,	San Antonio	1,249	1,633
Grady, D., et al,	Electra	673	936
Grady, Dan,	Electra	537	817
Gwynn-Boyd Drilling Company,	Wichita Falls	5,304	7,239
Gwynn, P. F., et al,	Wichita Falls	1,278	1,947
Gwynn, P. F.,	Wichita Falls	4,205	6,228
Gibson & Cardwell,	Wichita Falls	700	1,067
Graham & Lash,	Cisco	898	1,157
Gilman and Conway Bros.,	Ranger	4,627	7,313
Gandy & Peyton,	Wortham	3,349	4,287
Gates Oil Company,	Ardmore, Okla.	3,332	5,246
Gardner, Wilson & McCaldin,	Wichita Falls	1,012	1,488
Gallagher & Lawson,	Desdemona	503	714
Gilliland, C. W.,	Wichita Falls	3,378	4,798
Glasscock, Leon D.,	San Antonio	1,453	1,684
Gilliland-Rosser Oil Company,	Wichita Falls	27,603	40,310
Goldelline Oil Corporation,	Oklahoma City, Okla.	8,769	9,775
Gray, K. C.,	Vernon	460	556
Gilman & McMurray,	Cisco	4,252	6,752
Green & Owens,	Brownwood	1,248	1,899
Gray, K. C.,	Vernon	471	630
G. K. Production Company,	Fredericksburg	1,266	1,451
Gopher Oil Company,	Amarillo	1,013	938
Granite Oil & Gas Company,	Ridgway, Colo.	457	682
Grayburg Oil Company,	San Antonio	243,300	184,377
Gates Oil Company,	Littleton, Colo.	4,354	4,557
Gray & Adams, Inc.,	Gainesville	1,673	1,783
Guthrie, Cole & Ferguson,	Wichita Falls	765	1,039
Grayce Oil Company,	Wichita Falls	21,169	29,867
Godfrey, F. L.,	Enid, Okla.	76	106
Galvez Oil Corporation,	Tulsa, Okla.	5,045	6,873

WORD'S CHEMICAL FEEDER *the safe—sure answer to* PRODUCTION

This WORD Hi-Speed CHEMICAL FEEDER may be used for the treatment of production of any well, regardless of size. A riser within the drum allows gas to gather on top of the chemical, forcing it through the SIGHT FEED. This is equipped with needle valve control which permits of very close adjustment of the amount of chemical fed into the line.

Valve and funnel arrangement at top permit easy filling, and guage at side indicates level at all times.

The feeder will operate with perfect accuracy on a pressure as low as 4 pounds and as high as 500 pounds. It is not only suitable for Tret-O-Lite, but for any chemical used in treating oil

This picture shows a WORD CHEMICAL FEEDER in actual operation on the line of the Houston Gulf Gas Company, Cummings No. 1 at Refugio.

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HOUSTON

"The Best Known WORD in the Oil Business"

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HOUSTON, TEXAS

Name	Address	Barrels	Value
Group No. 1 Oil Corporation, Big Lake		495,234	738,465
Gordon Oil Company of Texas, Logan, Ohio		78	99
Gardner Bros. & Collins, Wichita Falls		42,315	59,335
Gainesville Oil & Developing Company, Gainesville		472	543
Golden West Oil Company, San Antonio		31,363	34,788
Gwinnup, H. G., Fort Worth		377	561
Hamilton & Martin, Wichita Falls		1,773	2,482
Hart Oil Corporation, Fort Worth		628	907
Hemisphere Oil Corporation, New York, N. Y.		34,796	44,950
Home Oil & Gas Company, Albany		1,799	2,088
Humble Oil & Refining Company, Houston		6,323,670	7,024,809
Hunter, T. F., Wichita Falls		8,901	12,243
Hutton Oil Corporation, Cisco		8,143	9,338
Rhodes & Highers, Breckenridge		5,945	8,162
Hamilton, W. L., Burkburnett		569	942
Heidrich, E. C., Jr., Amarillo		1,785	2,126
Hanover Company, Wichita Falls		5,486	7,328
Houston Production Company, Houston		13,713	16,567
Houston Oil Company of Texas, Houston		126,835	109,236
Houghland Production Company, Dallas		4,343	5,157
Holloway, R. R., Recv., Brownwood		1,488	2,306
Hobbs, Henry, Wichita Falls		4,313	6,272
Helvetia Oil Company, San Antonio		12,362	14,040
Harrison Oil Company, Houston		35,682	50,964
Hall, Ira W., Bros., Brownwood		7,935	12,537
Hueco-Ranger Oil Company, El Paso		292	367
Hutchinson, Frank, Archer City		1,476	1,764
Hynds Oil Company, Cheyenne, Wyoming		3,076	5,269
Harris & Bryan, Eastland		214	306
Hemisphere Oil Corporation, New York, N. Y.		37,151	45,629
Harris & Bryan, Eastland		501	728
Hambleton, Geo., San Antonio		451	498
Harris, Jodie P., Albany		3,496	4,504
Hepburn Oil Company, Brownwood		7,216	10,690
Hooker, G. E., Breckenridge		6,283	14,639
Hooker, G. E., Breckenridge		6,819	11,557
Hamer & Jennings, Wichita Falls		1,620	2,470
Hodges, S. G., Brownwood		1,200	1,134
Hall, Ira W., Brownwood		3,745	4,793
Heist, M. D., Putnam		27,460	35,703
Hyer, Fred, Fort Worth		2,957	2,365
Hickey, T. J., et al, Corsicana		58	79
Hawkins, W. L., Wichita Falls		2,531	3,656
Hammond, J. G., Fort Worth		206	283
Heyer, Fred, Fort Worth		71,721	62,181
Howard, Duffield & Berlin, Tulsa, Oklahoma		1,267	1,528
Hedrick-Camp Drilling Company, Wichita Falls		2,539	2,874
Hemby, J. M., Electra		1,227	1,789
Hampton & Wilson, Wichita Falls		153	179
Handrick, A., Moran		193	215
Hughes, Wm. K., Tr., St. Louis		939	1,265
Howard Petroleum Corporation, Tulsa		725	888
Hitchman & Howard, San Antonio		2,490	3,033
Herrogan Oil Corporation, Pampa		28,544	34,978
Hines, Harry, Wichita Falls		9,488	14,449
Hardie, J. M., & Company, Sour Lake		511	648
Harvey, R. A., Houston		460	498
Hobson & Voorhees, San Antonio		680	832
Howell, M. L., Lohn		912	1,240
Hammon & Heyser, Wichita Falls		20,882	29,701
Hammon, W. H., Wichita Falls		45,053	68,724
H. B. J. Oil & Gas Trust, Baltimore		2,333	3,515
Harwell, E. P., Tulsa		5,194	8,830
Hoppes, W. T., Burkburnett		360	613
Hobbs Oil Company, Tulsa		1,882	2,591
Humphreys Corporation, Houston		206,604	240,617
Humphreys Brothers, Houston		2,345	3,357
Hughes, J. K., Oil Company, Mexia		22,935	30,699
Hill & Dowell, Batson		11,419	14,268
Horn, T. W., Houston		4,755	5,987
H-Y Oil Company, Fort Worth		10,930	15,298
Hamilton, Walter R., Tr., San Antonio		5,335	6,895
Hyde Production Company, Houston		4,082	5,070
Hyde, George, Houston		3,825	4,270
Homaokla Oil Company, Oklahoma City		4,041	5,441
Houston Gulf Gas Company, Houston		32,027	26,991
Huber, J. M., Company, Breckenridge		3,562	3,178
Halmack Oil Company, Dallas		331	524
Hoffman & Page Company, Eastland		9,532	14,183
Hutchinson, Frasa, Archer City		699	948
Hill, W. R., Tr., Burkburnett		193	300
Heist, M. D., Putnam		1,551	2,233
Hardy Oil Company, Wichita Falls		2,446	3,640
Hodges, F. M., Wichita Falls		375	546
Herbert Oil Company of Texas, Fort Worth		4,426	6,108
Hinson, G. D., and R. V. Tidwell, Graham		5,423	7,345
Holmes, Huey & Holmes, Amarillo		2,860	4,576
Holmes Brothers, Amarillo		2,598	2,806
Holmes & Huey, Wittenburg		1,865	2,004
Harris & Simons, Tulsa		8,915	5,509
Hanlon Gasoline Company, Tulsa		1,463	1,876
Hickok Producing & Development Company, Toledo, Ohio		2,700	3,700
Hope Oil & Gas Company, Fort Worth		11,779	15,923
Hefley, McIntosh & Thomas, Cameron		649	844

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Rocky Mountain Oil Fields: COLONY CORPORATION, Rock Springs, Wyoming.

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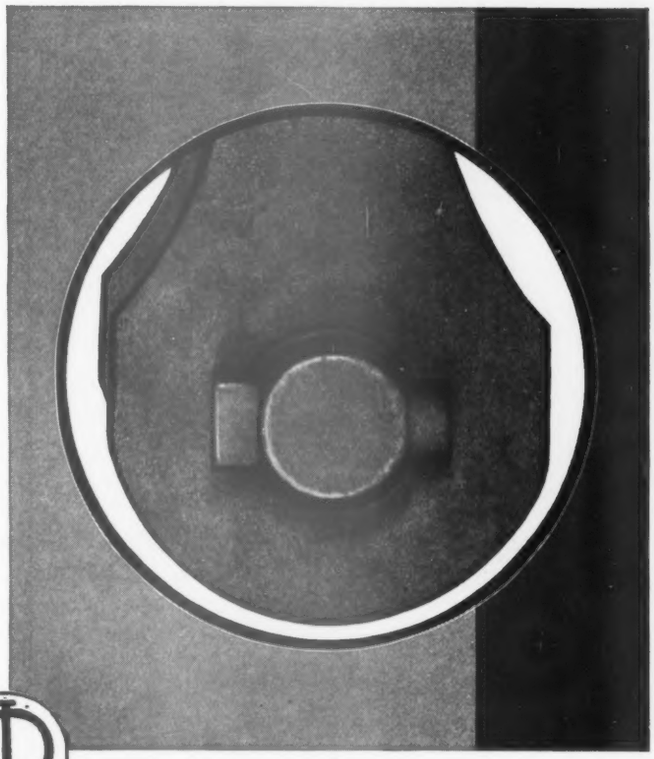
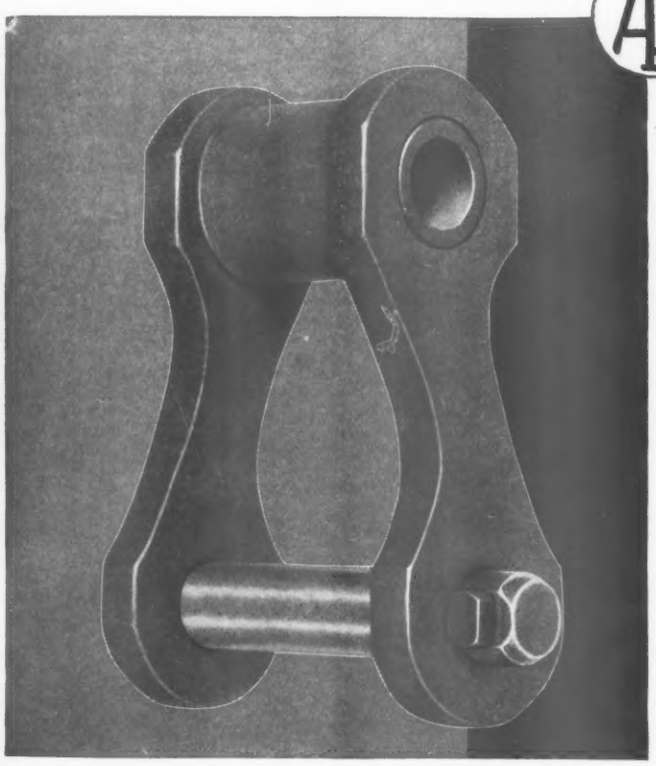
TO THOSE well-known qualities: Strength, Hardness, Precision and the Unit Link that Stays a Unit, is now added Another Important Improvement—The New, Rex Solid Cotter.



The New, Rex Solid Cotter



(link of 1240) Rex Deepwell Chabelco 1240 DW-4 API-4

The new, Rex Solid Cotter is forced into place by the steady, accurately gauged, pressure machinery. It securely locks the pin into the sidebars by filling up the pin hole *all the way through*—a Perfect, Pressure-Fit.

The Rex Solid Cotter cannot Rock; cannot Break, and Stays In Place. It ends the trouble of flying cotters and the inconvenience of riveted chain.

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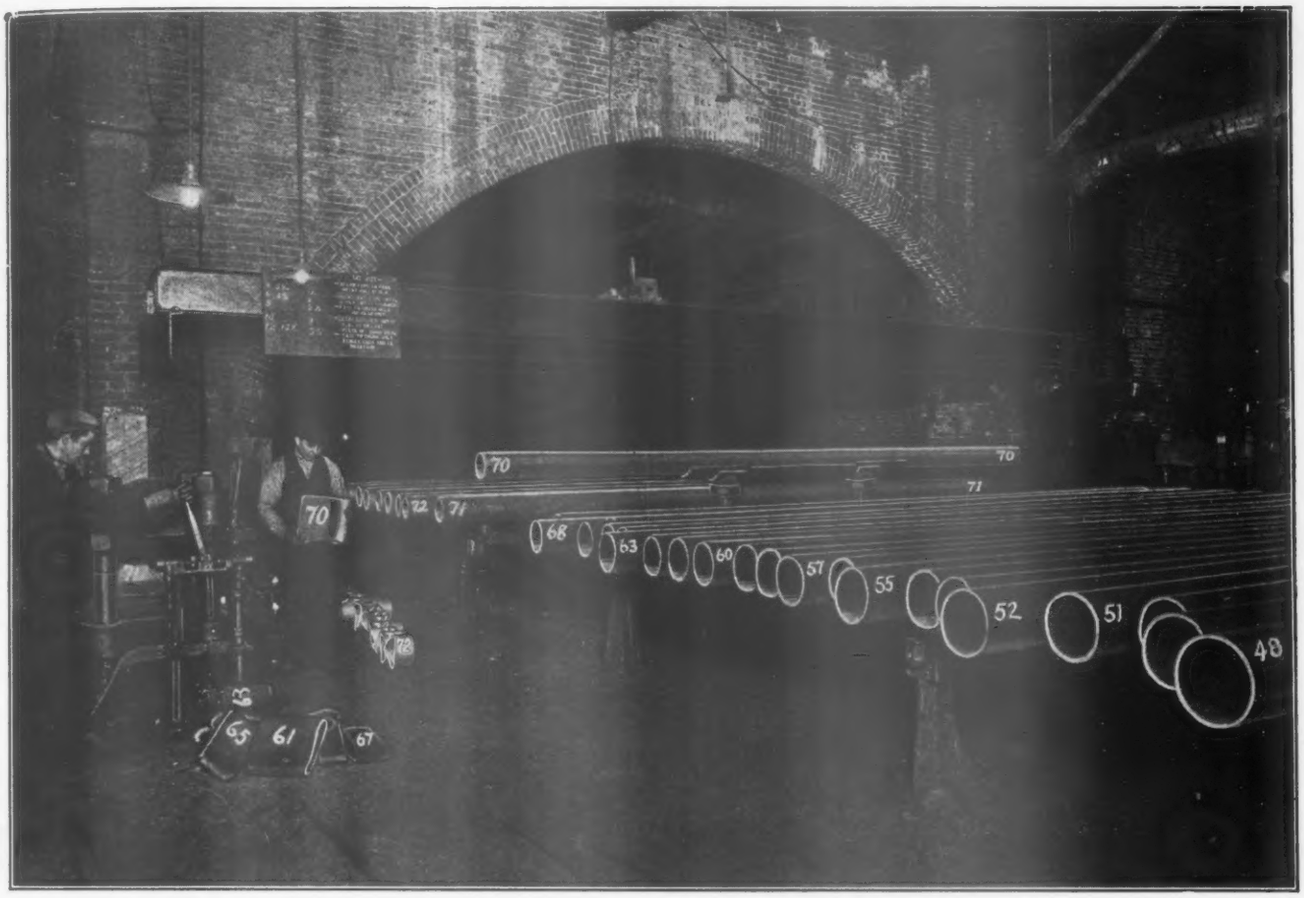
Tribal Osage Oil Leases at Public Auction September 20, 1929, By United States Government

At Pawhuska, Oklahoma, about 20,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security. Within advertised area there are about 9,850 wells producing from one barrel to 100 barrels each, the total daily production for June, 1929, being about 42,000 barrels; also, there are about 30 wells drilling. All lands are now leased separately for gas. Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for twenty-five cents each well. Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs or other information.

Name	Address	Barrels	Value
Holbrook & Woods, Wichita Falls		31,389	42,967
Hi-land Oil Company, Wichita Falls		11,699	18,075
Hughes, J. K., Developing Company, Mexia		147,560	1,646
Hamon, Jake L., Ardmore		13,660	19,960
Independent Oil Gas Company, Tulsa		368,240	283,944
Ilseng Production Company, Fort Worth		437	589
Irick Oil Company, Waskom		187	230
Idaho Oil Company, San Antonio		1,193	1,425
Infield Petroleum Company, Austin		859	1,044
Jones, W. A., Minerva		706	839
Jones, J. E., Wichita Falls		1,249	1,853
Junior Oil Company, Houston		1,302	2,012
Justin Oil Corporation, et al, Wichita Falls		9,954	15,077
Jones, Edwin M., El Dorado		13,157	17,822
Jones, J. A., Moran		383	591
Jones, Hugh, Burkburnett		7,384	10,837
Jones, J. F., et al, Abilene		6,047	10,018
Johnson, D. O., Wichita Falls		15,412	23,109
Jones, C. A., Strawn		173	254
Janellen Oil Company, Tulsa		208	271
Jackson, T. H., (Mch.), Sipe Springs		89	109
Jackson, T. H., Sipe Springs		115	144
Jackson, J. S., Tr., Sour Lake		3,941	4,947
James, Tom, Albany		6,512	9,278
Jackson Company, San Antonio		1,166	1,368
Judson Oil Company, Tulsa		7,266	10,709
Julia Oil Company, Sour Lake		3,145	3,953
J. H. L. Oil Company, Midland		11,162	8,929
Jonray Oil Company, San Antonio		1,022	1,086
Jones, Hugh, Burkburnett		3,048	3,048
Japhet Production Company, Houston		5,492	5,377
Johnson Bros., San Antonio		6,959	8,584
Kansas City, Mexico & Orient Ry. Co., Wichita, Kans.		12,242	7,947
Kemrow Company, Wooster, Ohio		13,395	19,703
Kewanee Oil & Gas Company, Titusville, Pa.		256,376	364,554
Kurz Oil Company, Somerset		463	459
Kimmell & Woofter, Wichita Falls		1,629	2,586
Kerr, T. P., Corsicana		597	810
Kershaw, L. R., Muskogee, Oklahoma		998	720
Kent, G. C., Corsicana		20,286	26,818
Kavanaugh Petroleum Company, Houston		3,185	4,348
Kelly, Geo. L., Tr., Wichita Falls		11,467	19,813
Kansas City, Mexico & Orient Ry. Co., Wichita, Kans.		14,946	9,715
Kohlman, Richard, Iowa Park		650	750
Kieffer, R. J., San Antonio		6,729	9,842
Kimbell & Bostic, Burkburnett		4,420	5,790
Kirby Petroleum Company, Houston		30,419	24,473
Kahle, Gracey & Diver, Bridgeport, Illinois		4,257	3,018
King, Anna B., Muskogee, Oklahoma		283	240
Kleingelder, B. F., Breckenridge		443	654
Keen & Woolf Oil Company, Shreveport, Louisiana		19,049	23,787
Kelly, Geo. L., Tr., Wichita Falls		398	543
King Royalty Company, Wichita Falls		90,303	130,305
Keck Investment Company, Los Angeles, Cal.		6,676	4,680
Killam, O. W., Laredo		65,004	54,774
Kleiner, Charles J., Cisco		15,270	21,278
Kirk & Evans, W. L. Holmesly, Tr., Gorman		1,812	2,480
Keystone Production Company, Fort Worth		3,560	5,205
King & Daniel, Wichita Falls		5,860	8,787
Keller, J. E., Iowa Park		329	489
Kate Bell Oil Company, Dallas		1,034	1,537
Koenig, Max W., Oakland, California		20,711	17,554
Kohlman, Richard, Iowa Park		614	902
Klemcke, George, Tr., Von Ormy		1,760	1,860
Kokoma Petroleum Company, Gorman		731	1,101
Kistler, Frank E., & Company, Littleton, Colorado		4,309	3,807
Keener Oil & Gas Company, Tulsa, Oklahoma		1,601	6,500
Kaufman, L., San Antonio		594	621
Knotts, F. F., Wichita Falls		610	897
Kolp, C. F., Electra		35,292	48,236
Kay, A. W., Recv., Graham		1,311	1,843
Kuhlemeier-Kleiner Oil Company, Cisco		673	876
King, R. A., Tr., Wichita Falls		4,814	3,966
Leonard Oil Company, Somerset		212	241
Leonard, Geo., Somerset		914	980
Little Caddo Syndicate, Fort Worth		1,286	1,875
Loggie & Arondt Oil Company, Albany		2,115	2,653
Lomas, Thornton, Jr., Wichita Falls		2,813	3,923
Lutex Oil, Inc., Austin		24,456	27,443
Lytle, C. F., Mexia		10,935	13,930
Lewis Production Company, Pittsburgh, Pa.		53,678	73,072
Larkin, W. B., Wichita Falls		295	427
Levy & Evans, Tr., Fort Worth		4,014	6,022
Lobban, J. L., et al, Electra		248	337
Lambert, Trout & Duke, Wichita Falls		1,409	2,066
Lefors Petroleum Company, Lefors		62,821	73,855
Lackey, W. G., Tulsa, Oklahoma		2,562	3,407
Linedo Oil Company, Lincoln, Nebraska		1,749	1,520
Lee, Homer, Wichita Falls		1,585	2,404
Last Chance Gas Company, Pampa		2,622	2,643
Lockhart & Company, Los Angeles, California		56,982	63,255
Lewis, J. E., et al, Eastland		960	1,321
Lewis, J. E., & Company, Eastland		3,281	4,584
Lefors Petroleum Company, Lefors		67,889	83,717
Louisiana Oil Refining Corporation, Shreveport		101,758	89,446
Letwin & Lippitt, Breckenridge		10,970	15,034
Lake View Oil Company, Sour Lake		12,631	15,801



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Every length of Chester Casing, Pipe and Tubing must pass the Crop-End Test. Both crop ends are crushed and examined as an additional important physical test to check the character of weld and metal of each length of pipe.

By the system of duplicate numbers on pipe and crop ends, identity is immediately established. Rejects are returned to the mill for retesting or rejection.

The usual method of testing and checking heavy duty material is to take a small percentage of the number of pieces for test purposes. South Chester Tube Company goes to the extreme of making two tests of each length which represents a 200% check. This is but one of the means Chester employs to insure 100% satisfaction in its product. The wide use of Chester Products is evidence that the value of these tests is appreciated by the trade.

Chester also makes all classes of Genuine Wrought Iron Tubular Goods

South Chester Tube Company, — Chester, Pa.

District Sales Managers:

W. E. Gibson, 801 Columbia Bank Bldg., Pittsburgh, Pa.

H. A. Morse, 30 Church St., New York City

J. P. Cooney, 715-716 A. G. Bartlett Bldg., Los Angeles, Cal.

J. P. Steele, 305 Petroleum Bldg., Fort Worth, Texas

District Offices:

Tulsa, Oklahoma—J. D. Swartz, 1231 South Evanston St., Tulsa, Oklahoma
Houston, Texas—P. H. Selk, Jr., 2108 Mills St., Houston, Texas
District Warehouses: Houston, Texas; Thenard, Cal.

Distributors:

Prichard Supply Co., Mannington, W. Va. Mather & Waynesburg, Pa.
LeValley, McLeod, Kinkaid Co., Inc., Elmira and Olean, N. Y.

Petroleum Supply Co., Houston, Tex., Norphlet, Ark.
Wagner Supply Co., Fort Worth, Cross Plains, Breckenridge, Iraan, Wink, Forsan and Odessa, Texas.

Bridgeport Machine Co., Wichita, Kansas, and Branches throughout Kansas and Oklahoma
United Oil Well Supply Co., 712 A. G. Bartlett Bldg., Los Angeles, Cal.

Great Northern Tool & Supply Co., Billings and Kevin, Mont., Kemmerer and Cody, Wyoming.
United Pipe & Supply Co., Charleston, W. Va., and Paintsville, Ky.

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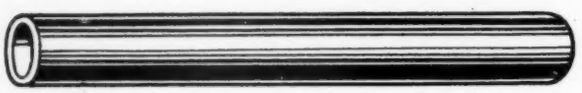

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NO LOAD TOO BIG — NONE TOO HEAVY FOR THIS HANDY, TIME-SAVING TOOL

Stacy Swivel Load Binders make hauling safe and save time and work. They bind any load quickly, securely, easily.

Made in 5 sizes, weighing from 2 lbs. to 14 lbs. for each single tool, not for a pair as commonly quoted, sold and used.

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Just ask your jobber or export agent for Stacy Load Binders in the size you want. He'll do the rest.

I also sell chains. Any weight, size or length with hooks or as desired.

EUGENE C. STACY
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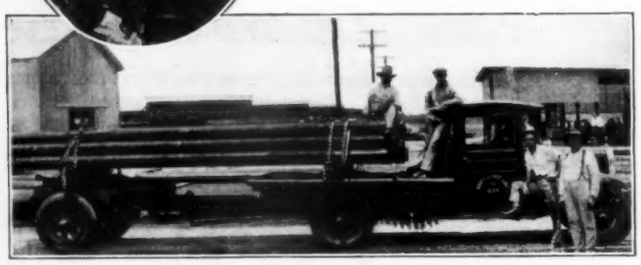

Name	Address	Barrels	Value
Lone Star Gas Company, Dallas		17,113	25,203
Lesh, John I., & Company, Wichita Falls		8,725	6,338
Leiser-Rochmill Production Company, Fort Worth		1,803	2,110
Lion Oil Refining Company, El Dorado, Arkansas		1,108,377	859,713
Loewenstein Oil Company, Rockdale		1,143	1,534
Lee & Scott, Inc., Houston		337	439
Landreth Production Corporation, Fort Worth		6,274	8,298
LaSalle Petroleum Company, Tulsa		5,765	7,865
Larson, Edwin, Los Angeles		21,098	28,205
Lea & Daniel, Wichita Falls		3,779	5,149
Long, C. B., Wichita Falls		232	315
Lake Graham Oil Company, Houston		3,168	4,116
Lawson, Eugene B., Tulsa		51,951	70,483
Lesh, Kilcrease & Company, Nocona		2,556	2,352
Lowe, Delaney & Carter, DeLeon		158	209
Lesh & McCall, Nocona		21,840	15,725
Lucey Petroleum Company, Dallas		359	501
Lamb, Geo. E. and L. E. Shaw, Brownwood		27	42
Little, Wm., Breckenridge		298	396
Lebow, C. H., Tulsa, Okla.		1,164	1,766
Levy, Leonard M., Tr., Fort Worth		1,411	2,189
Levy, Leonard M., Tr., Fort Worth		2,874	4,575
Levy & Evans, Tr., Fort Worth		185	288
McNallen, A. J., et al, Breckenridge		2,428	3,211
McMurray, J. L., et al, Cisco		2,147	3,221
McMurray, Root & Rhodes, Eastland		1,153	1,910
McDaniel Oil Corporation, Cisco		5,088	7,939
McMan Oil & Gas Company, Tulsa		686,653	662,286
McDonald & Campbell, et al, Dallas		3,588	5,090
Macknold Company, San Antonio		200	222
McLean, Marrs, Beaumont		31,494	32,515
McChesney, Nancy, Olney		4,878	6,221
McIlroy Oil Company, Inc., Amarillo		49,079	46,580
McCarty Oil Company, Wichita Falls		73,171	110,769
McCarter, R. C., Cisco		195	250
McHugh, V. E., Graham		740	1,080
McLean, Marrs, Beaumont		33,344	33,344
McLean, Marrs, Beaumont		20,250	23,393
McLester, Jerome, Eastland		12,947	19,483
McNadeau, A. J., et al, Breckenridge		19,722	25,804
McCort, H. C., Receiver, Fort Worth		1,436	1,917
McCormick & Noack, Rockdale		69	100
McDould, M. C. and A. C., Putnam		8,718	12,585
McNallen & Griffin, Tulsa		5,749	7,821
McCall, C., Tr., Nocona		818	944
McNamara Oil Company, Beaumont		1,838	2,292
McLester Oil Company, Breckenridge		2,284	3,213
McGraw Oil Company, Tulsa		1,453	1,847
McJunkin, Florence T., et al, Tulsa		490	787
McCutchen, C. E., Wichita Falls		990	1,382
McCrary, E. W., Tulsa		4,625	6,007
McBride, W. C., Inc., St. Louis		6,040	7,732
McCutchen, V. E., Wichita Falls		8,917	12,716
McLester Oil Company, Eastland		12,015	20,504
McGinley-Sigler Company, Fort Worth		182	129
Moore, F. L., Tr., Tulsa		2,455	3,410
Midwest & Gulf Company of Texas, Trust Est., Tulsa		1,364	1,573
M. & V. Oil Company, Wichita Falls		4,114	5,943
Murchison Oil Company, Dallas		217,529	163,629
Mills Bennett Production Company, Houston		131,234	150,510
Merrick & Bristow, Ardmore		249,857	177,003
Merrick & Lamb, Ardmore		24,254	20,003
Mayberry, C. R., Company, Laredo		3,610	3,080
Marts, E. R., et al, Dallas		4,422	5,868
Moore, C. O., Oil Corporation, St. Louis		13,602	18,600
Mortimer, Hobbs & Ferguson, Cisco		318	348
Mortimer, Hobbs & Ferguson, Cisco		249	308
Mortimer, Hobbs & Ferguson, Cisco		647	799
Mortimer, Hobbs & Ferguson, Cisco		160	187
Morton, A. D., Tulsa		811	1,073
Mourtray Oil Company, Abilene		112,012	161,249
May, F. N., Santa Anna		314	419
Maer & Staniforth, Wichita Falls		1,665	2,168
Mid-Kansas Oil & Gas Company, Findlay, Ohio		2,088,399	1,669,046
Medio Oil Company, San Antonio		788	954
Milham Corporation of Texas, San Antonio		10,407	15,062
Moore, N. A., Eastland		2,822	4,043
Mordyan Petroleum Company, Pampa		5,532	7,334
Midwest Exploration Company, Denver, Colorado		130,253	151,482
Mann & Forbes, Graham		2,174	3,227
Mocom Oil Company, Liberty		4,824	5,789
Mecom Oil Company, Liberty		2,247	2,704
Margarette Oil Company, Albany		4,484	5,976
Margurette Oil Company, Albany		1,611	2,145
Mills & Garitty, Corsicana		1,957	2,348
Marland Production Company, Ponca City, Okla.		1,817,468	1,745,856
Minor Oil Company, Beaumont		10,183	12,728
Marts, E. R., Dallas		9,707	9,377
Mitchell, Amos J., Wichita Falls		3,137	4,283
Mitchell, Herman, Iowa Park		3,848	5,482
Middleton, J. H., Collinsville, Oklahoma		13,937	13,240
Morgan, Ray, et al, Fort Worth		4,471	6,384
Magnolia Petroleum Company, Dallas		2,568,770	2,609,259
Margaret Oil Company, Albany		658	947
Marguette Oil Company, Tulsa, Okla.		5,994	7,107
Medina Oil & Gas Association, San Antonio		190	216
Mennis, G. W., Wichita Falls		5,784	7,934
Mues & MacDermott, Fort Worth		380	496

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XUM

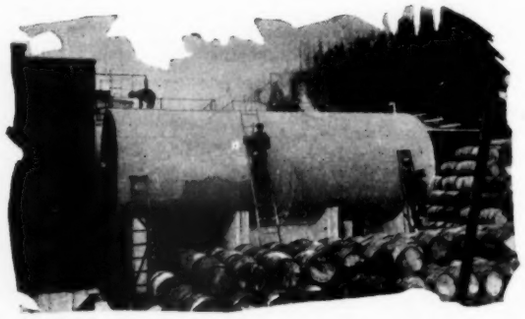
Name Address	Barrels	Value
Montgomery, Rea-Montgomery, Sedwick	1,592	2,225
Millikin, L. L., Burkburnett	385	521
Merrick & Belcher, Wichita Falls	6,785	11,409
Minerva Petróleum Company, Minerva	1,013	1,396
Melat Oil Company, Fort Worth	20,520	27,399
Murphy, J. A., and J. F. Williams, Mineral Wells	2,325	2,911
Mendenhall Oil Company, Cisco	1,829	2,833
Madden, E. B., Olney	40,485	61,383
Madison Oil & Gas Company, Electra	4,789	7,256
Mason, J. F., Putnam	3,223	4,621
Magee, R. B., Wichita Falls	1,557	2,497
Meridian Petroleum Corporation of Texas, Tulsa	3,295	4,075
Marshall, George S., Laredo	8,269	7,442
Mann, F. A., Graham	254	393
Mann, Floyd, Graham	1,311	1,871
Massie, J. H., Wichita Falls	18,654	27,031
Meredith, J. D., Moran	4,017	4,639
Mid-Tex Oil & Gas Company, Abilene	74	116
Marnet Oil & Gas Company, Tulsa	4,818	6,595
Martin & Hamilton, Wichita Falls	24,338	31,542
Maxwell, G. C., Fort Worth	80,743	65,033
Midland Oil Company, et al, Fort Worth	378	518
Mid-Continent Holding Corporation, Wichita Falls	10,909	16,730
Mid-Continent Petroleum Corporation, Tulsa	12,080	16,726
Menke, John G., Wichita Falls	1,503	2,190
Minnetex Oil Corporation, Wichita Falls	897	1,134
Mook-Texas Oil Company, Fort Worth	8,618	11,713
Moran, W. J., Wichita Falls	10,212	14,301
Moody Corporation, Tulsa	833,880	803,116
Minnehoma Oil & Gas Company, Tulsa	3,734	3,397
Mitcham, G. P., Cisco	1,333	1,717
Moss and Urschel, Dallas	20,700	27,077
Moss, Urschel & Keys, Dallas	9,057	12,170
Nash, Windfohr & Perry, Austin	51,717	59,028
Nash & Windfohr, Graham	71,130	106,209
Norman Oil Company, Wichita Falls	336	444
Newport & Ohio Petroleum Company, Newport, N. Y.	561	786
National Oil Company, San Antonio	761	791
Noack & Lanning Phillips & Perry, Rockdale	73	106
Noack Oil Company, Rockdale	1,684	2,291
Nimrod Oil Company, Dallas	244	322
Noack & Lanning-Shelton, Rockdale	310	419
Necessity Oil Corporation, Eastland	1,178	1,587
Navarro Oil Company, Houston	349,399	422,801
Nutt & Gates, Wichita Falls	1,472	2,205
North Fork Oil Company, Amarillo	4,648	5,691
Newton-Palmer Oil Company, Rockdale	448	604
Number Nine Oil Company, Tulsa	2,584	3,691
Nash & Windfohr, Graham	14,130	21,168
Oil Royalty Corporation, Brownwood	868	946
Old Ocean Oil Company, San Antonio	5,345	3,367
Omohundro, W. B., Wichita Falls	15,267	21,075
Overbey, J. D., Iowa Park	426	643
Osage Development Company, Bartlesville	1,351	1,145
Optimist Oil Company, Electra	3,269	4,683
O'Neil, John, Wichita Falls	11,187	15,025
Olean Petroleum Company, Bristow, Okla.	20,730	16,697
Oil Investment Company, Wichita Falls	2,842	4,016
Old Colony Oil Company, Dayton	1,347	1,644
Owens, Sherwood B., Brownwood	470	648
Old Fields Corporation, El Dorado, Ark.	399	502
Ohio-Texas Oil Company, Inc., (9-30-26), Houston	1,139	2,545
Ohio-Texas Oil Company, Inc., (12-31-26), Houston	835	1,728
Ohio-Texas Oil Company, Inc., (3-31-27), Houston	2,156	3,572
Ohio-Texas Oil Company, Inc., (6-30-27), Houston	3,091	3,955
Ohio-Texas Oil Company, Inc., (9-30-27), Houston	2,368	3,036
Ohio-Texas Oil Company, Inc., (12-31-27), Houston	1,691	2,172
Ohio-Texas Oil Company, Inc., (3-31-28), Houston	2,021	2,604
Ohio-Texas Oil Company, Inc., (6-30-28), Houston	2,613	3,420
Ohio-Texas Oil Company, Inc., (9-30-28), Houston	2,302	3,126
Ohio-Texas Oil Company, Inc., (12-31-28), Houston	32,084	47,737
Owenwood Pool No. 3, Fort Worth	4,569	6,147
Ohio Somerset Oil Company, Cleveland, Ohio	1,405	1,546
Orange Petroleum Corporation, Orangefield	29,336	35,908
Oil Field Corporation, El Dorado, Ark.	97	130
Oriental Oil Company, Dallas	514	666
Oldom, Wm. P., Iowa Park	1,891	2,797
Onyx Oil Company, Houston	13,226	11,092
Operators Oil Company, Tulsa, Okla.	293,378	409,685
Osborne, R. R., et al, Pampa	1,303	1,689
Owen-Sloan Oil Company, Big Spring	185,745	134,167
Oklahoma Petroleum & Gasoline Company, et al, Tulsa	15,395	20,873
Olney Oil & Refining Company, Olney	335	493
Paraffine Oil Company, Houston	12,033	15,009
Pennok Oil Corporation, Dallas	14,480	18,956
Pickrell, Frank T. & Cranfill Bros. Oil Company, Fort Worth	8,012	5,903
Pilkington, F. L., Burkburnett	1,829	2,371
Powell, J. L., Wichita Falls	492	708
Preston Oil & Gas Company, Brownwood	289	405
Pitzer & West, Breckenridge	16,864	24,709
Powell, T. O., Cross Plains	140	214
Peery's, Thos. H., part of C. W. Boller et al, Wichita Falls	922	1,357
Pennell, C. A., Loving	3,452	3,884
Pennowa Oil & Gas Company, Skiatook, Okla.	15,704	16,988
Pearson-Brahaney et al, Ranger	3,002	6,274
Pace, T. J., Iowa Park	8,677	15,948

Name Address	Barrels	Value
Pelwin Oil Corporation, Wichita Falls	229	264
Preston Oil & Gas Company, Brownwood	248	334
Pivoto, M. E., Sour Lake	3,384	4,093
Pickens & Lewis, Dallas	473	659
Pipe, L. E., Tr., Vernon	1,735	2,573
Phoenix Oil Company, Eastland	15,926	23,889
Parsons, Ed. V., Fort Worth	343	524
Primrose Oil Company, Sour Lake	975	1,217
Pollard, W. E. & C. E., Pampa	6,210	7,974
Price-Russell & Company, Ranger	4,736	7,727
Piney Oil & Gas Company, New York, N. Y.	4,736	3,914
Pandem Oil Corporation, Wichita Falls	24,676	34,535
Parry Oil Company of Texas, Fort Worth	508	720
Pure Oil Company, Chicago, Ill.	751,508	816,743
Powers Production Company, Houston	1,905	1,839
Poor Boy Oil Company, Rockdale	303	400
Pois, M., Tr., Wichita Falls	298	429
Pois & Johnson, Wichita Falls	689	932
Pois, M., et al, Wichita Falls	4,614	6,571
Pois, Fine & Schulz, Wichita Falls	956	1,400
Powell, H. J., San Antonio	6,836	7,714
Pennell, C. A., Loving	3,398	4,268
Pioneer Oil, Gas & Refining Company, Danville, Ill.	1,361	1,422
Panhandle Refining Company, Wichita Falls	144,268	213,851
Philp Brothers, Beaumont	4,096	5,125
Prairie Oil & Gas Company, Independence, Kans.	50,558	64,032
Prairie Oil & Gas Company, Independence, Kans.	1,447,178	1,413,459
Producers & Refiners Corporation, Independence, Kans.	5,628	7,816
Plymouth Oil Company, Pittsburgh, Pa.	109,642	101,365
Palmer, Freddie Oil Company, Rockdale	137	186
Producers Supply & Tool Company, Marietta, Ohio	4,206	6,012
Palmer & Burch, Inc., Wichita Falls	15,461	22,482
Paggi Bros. Oil Company, Beaumont	9,100	11,441
Poole, B. O., Batson	2,877	3,588
Portland Drilling Corporation, Wichita Falls	942	1,337
Perkins & Cullum, Wichita Falls	39,288	57,138
Perkins, J. J., Wichita Falls	2,006	2,819
Putnam Oil Company, Tulsa, Okla.	44,131	61,354
Phillips Petroleum Company, Bartlesville	1,709,129	2,116,585
Pecos Valley Oil Company, Ft. Stockton	15,394	12,129
Pace & Wood, Breckenridge	2,074	2,907
Pennowa Oil & Gas Company, Tulsa	14,684	17,383
Phillips, W. G. & J. B. Milam, Chelsea	130	178
P-M Drilling Company, Chelsea	247	346
Pace, Geo. L., Wichita Falls	688	1,003
Prairie Lea Production Company, San Antonio	7,261	6,114
Phillips, J. R., Amarillo	12,326	11,487
Phillips, J. R., Amarillo	1,318	1,566
Producers Drilling Company, Wichita Falls	7,251	10,655
Petroleum Producers Company, Wichita Falls	93,422	142,213
Petroleum Investment Company, Wichita Falls	3,353	4,895
Paggi, Chas. & Company, Beaumont	574	729
Progressive Production Company, Kansas City	1,459	2,112
Pantex Oil Company, Boston, Massachusetts	8,368	9,961
Pharis Oil Company, Amarillo	2,298	2,175
Palo Duro Oil Company, Amarillo	7,372	7,372
Py-Tex Oil Company, Winchester, Ky.	3,723	5,700
Phair, F. L. & L. W. Wright, Houston	705	493
Pemeta Oil Company, Fort Worth	5,537	7,784
Pratt, Thos. H., Brenham	124	124
Paull Oil Company, Graham	15,393	22,785
Quinn, J. W., et al, Eastland	7,804	12,206
Quartet Oil Company, Tulsa	7,011	11,022
Quincy Oil Company, Vernon	102	168
Reeder & Scarborough, Wichita Falls	1,201	1,754
Ruby Oil Company, Minerva	235	305
Riner & Bailey, Wichita Falls	62,838	94,930
Rycade Oil Corporation, Houston	190,798	195,180
Rockwell, J. A., & Company, Warren, Pa.	2,421	3,326
Rubsam & Hunter, Wichita Falls	3,211	4,855
Rock Island Oil Company, Amarillo	828	1,008
Robinson, Arthur D., Dallas	7,054	8,195
Richards, M. L., Wichita Falls	33,817	50,728
Reinhart, M. J., Tr., Oklahoma City	542	786
Richards, M. L., Wichita Falls	3,995	5,261
Royalty Oil Corporation, Brownwood	85	86
Ramming, Staley & Ramming, Wichita Falls	568	756
Ramming, R. W., Wichita Falls	6	7
Rex Petroleum Corporation, Vinton, La.	16,932	20,979
Richardson & Kelsey, Fort Worth	14,066	10,336
Rentex Oil Company, San Antonio	7,884	8,180
Rowe, J. G., Wichita Falls	3,371	5,072
Roy Long Oil Company, Navasota	2,352	3,245
Ross & Slicker Oil Company, Cisco	928	1,360
Roeser & Pendleton, Inc., Fort Worth	390,491	554,509
Riggs & Oliphant, Graham	17,822	24,848
Rountree & White, Rockdale	717	936
Reiter-Foster Oil Corporation, Tulsa, Okla.	23,279	32,495
Reno Oil Company, Sistersville, West Virginia	55,795	82,903
Rock Creek Oil Corporation, Amarillo	21,092	19,570
Root, C. M., et al, Eastland	16,064	22,666
Root, Rhodes, et al, Eastland	9,721	14,463
Root & Rhodes, Eastland	4,727	7,014
Root, C. M., et al, Eastland	18,394	25,690
Root, C. M., Eastland	7,534	11,150
Rockdale Oil Company, Rockdale	79	79
Rathke Oil Company, Wichita Falls	25,045	37,274
Ryan Consolidated Petroleum Corporation, Tulsa	79,559	111,549

Name	Address	Barrels	Value
Ramsel, W. T., Oil Company, Rockdale		1,881	2,558
Red River Oil Company, Tulsa		16	23.7
Redmond, W. J. Brownwood		462	679
Rochmill, Henry, Tr., Fort Worth		623	767
Russell & Wilson, Wichita Falls		4,018	5,303
Roth & Faurot, Independence		6,593	9,353
Roth & Faurot (2-1926 to 3-29), Independence		40,398	61,523
Rexal Petroleum Corporation, Houston		3,082	3,329
Rockdale Junior Oil Company, Rockdale		225	286
Reeder, R. S., et al, Wichita Falls		7,286	10,636
Robinson, O. D., Pittsburgh		1,268	1,649
Ray & Massie, Wichita Falls		16,429	21,877
Ross Segunda Oil Company, Laredo		770	669
Ross Amigos Oil Company, Laredo		10,912	9,242
Ross, James F., Laredo		3,402	2,843
Ramsey, E. H., Rising Star		427	677
Rex-Tex Oil Company, Winchester		3,723	5,700
Republic Production Company, Houston		741,855	693,014
Ruyle Farm & Oil Company, Wichita Falls		7,288	10,721
Roberts, H. W., Wichita Falls		2,405	3,745
Rio Bravo Oil Company, Houston		591,459	699,450
Reserve Petroleum Company of Texas, Tulsa		548	836
Ranell Oil Company, Oklahoma City		4,559	6,441
Red Bank Oil Company, Tulsa		16,875	23,981
Robert Oil Corporation, Breckenridge		41,716	60,351
Shaw, Neil K., et al, Brownwood		270	337
Shaw, Neil K., et al, Brownwood		120	151
Stump, E. J., & Company and Venmex Oil Company, Wichita Falls		6,647	9,461
Scarborough & Reeder, Wichita Falls		812	1,212
Smith, E. L., Oil Company, Inc., Mexia		152,170	183,899
Smith, McIntosh & Thomas, Cameron		652	741
Smith, W. B., et al, Eastland		677	1,025
Somerset Oil Company, Somerset		1,137	1,227
Southern Crude Oil Purchasing Company, Fort Worth		3,811,091	2,884,982
Stout & Preston, Brownwood		490	723
Stout Petroleum Company, Brownwood		62	68
Superior Oil Pro. Company & Geo. E. Lamb, Brownwood		63	75
Snowden & McSweeney Company, New York		85,550	120,169
Sneed Royalty Company, Tulsa		2,441	2,178
Sinclair Oil & Gas Company, Houston		137,328	174,041
Swanner, John L., Wichita Falls		2,019	2,889
Somerset Crude Oil & Refining Company, Somerset		2,767	3,130
Stampfly & Kell Lease on C. C. Bloodworth, Archer City		149	179
Strelsky, Joe & Hefley, Rockdale		473	643
Stratton, Ed F., Pioneer		298	366
Simmons, T. K., Tulsa, Okla.		2,666	3,637
Sircovich, A. & Mrs. F. M. Thomas, Houston		1,069	903
Sink, Joel, Corsicana		195	292
Shattuck, R. H., Dallas		3,939	5,316
Scott & Walker, Albany		4,606	5,666
Schoolfield, R. E., Wichita Falls		253	335
Sand Creek Oil Company, Amarillo		5,568	6,610
Stratton, E. L., Fort Worth		191	208
Saigh, N. A., San Antonio		1,479	1,789
Speed, C. D. Corsicana		230	319
Staley, J. A., Wichita Falls		1,724	2,268
Standard Land & Leasing Company, Electra		304	435
Skinner, E. W., Oil Company, Saratoga		4,118	4,821
Sigler Oil Company, San Antonio		1,309	1,442
Shappell Oil Company, Wichita Falls		51,107	74,576
Shallow Sand Oil Company, Fort Worth		703	880
Schlaffke, Edward, Electra		85	128
Schaffner, E. N. et al, Cross Plains		1,167	1,496
Salado Oil Company, San Antonio		1,664	1,782
Summitt Oil & Refining Corporation, Amarillo		4,248	4,738
Sullivan, M. J., Kansas City, Mo.		680	869
Snow Oil Company (Riggs & Oliphant), Graham		1,036	1,430
Southern Exploration Company, Houston		271	344
Steed, Paul P. & A. R. Gaus, Wichita Falls		2,668	3,716
Steed, Paul P., Wichita Falls		1,804	2,680
Steed, Paul P., Wichita Falls		443	567
Stella Oil Company, Beaumont		13,224	16,616
Session, I. P., Rockdale		379	466
St. Marys Oil & Gas Company, St. Marys, W. Va.		35,758	40,995
Seybert Brothers, Mooringsport, La.		6,613	10,242
Slicker, Homer, Cisco		654	855
Smith, Mrs. James L., Amarillo		7,619	9,444
Smith & Bynum, Amarillo		2,115	2,336
Shoup, O. H., Jr., Colorado Springs, Colo.		3,070	4,466
Schlicher Oil Company, Beaumont,		1,374	1,765
Scarborough & Smith, Burkburnett		469	587
Scarborough, W. A., Burkburnett		2,225	3,231
Stroube & Stroube, Corsicana		30,958	41,851
Sun Oil Company, Dallas		1,270,138	1,357,326
Scott & Britton, Gorham		170	209
Scott & Nance, Graham		1,639	2,094
Sedgwick Oil Company, Tulsa		13,544	17,697
Skia-Tex Petroleum Company, Amarillo		31,767	35,010
South Texas Petroleum Company, Houston		286,808	434,720
Stekoll, Harry & J. F. Champion, Tulsa		3,000	2,553
Sinclair Oil & Gas Company, Tulsa		121,843	181,702
Summerfield Oil Company, Tulsa		219	308
Schermerhorn Oil Company, Minneapolis		208,757	150,605
Shasta Oil Company and Clifford Mooers, Wichita Falls		590	743
Sprague Oil Company, Ardmore		46,949	30,902

Name	Address	Barrels	Value
Skelly Oil Company, Tulsa		942,435	1849,438
Superior Oil Producing Company, Tulsa		2,141	3,050
Spring Creek Oil Company, Amarillo		3,949	4,361
Spencer, H. H. & Company, Burkburnett		177	258
S. & O. Oil Company, Houston		3,900	3,494
Saxet Oil Company, Houston		176,801	190,379
Somerset Oil Company of Massachusetts, Easthampton, Mass.		132	138
Sterling Oil & Gas Company, Tulsa		165	182
Sandefer-Atkinson-Daniel Oil Corporation, Breckenridge		3,991	5,231
Stedham & Thrasher, Electra		425	367
Sheffield, Frank H., Beaumont		1,864	2,326
Shaw Oil Company, Wichita Falls		67,368	95,121
Staley, J. I., & Company, Wichita Falls		3,646	5,043
Staley, Wynne, & Company, Wichita Falls		161,470	204,849
Stock, H. I., Cisco		2,040	2,729
Shell Petroleum Corporation, St. Louis		3,345,651	3,060,010
Smith, McIntosh, Thomas & Coulter, Cameron		1,455	1,956
Supreme Oil Company, Orange		3,144	3,957
Saratoga Oil Company, Wichita Falls		656	921
Star Drilling Company, Wichita Falls		3,718	5,537
Schaffner-Wilson, et al, Markley		1,746	2,888
Snider, C. W., Wichita Falls		1,096	1,672
Stovall, E. C., Graham		9,535	12,939
Samuell, Howard, et al, Shawnee, Okla.		552	653
Stephens & Fisher, Wichita Falls		989	1,240
Simms Oil Company, Dallas		878,813	781,949
Syndicate Oil Corporation, Rochester, N. Y.		1,912	2,913
Selby Oil & Gas Company, Tulsa		6,852	10,610
Smith, Levi, Texon		18,311	28,587
Smith, Levi, & J. C. Shaffer, Texon		277	334
Sheldon, C. P., Electra		7,695	11,014
States Oil Corporation, Eastland		42,433	63,055
Shaw, T. G. Fort Worth		178,230	214,579
Shutzer Brothers, Dewey		6,381	8,892
Treat, E. M., Oil & Gas Company, Pittsburgh, Pa.		2,489	3,408
Trimount Petroleum Company, Shreveport, La.		7,818	12,689
Tripplehorn, J. W. & D. R., Fort Worth		3,870	5,929
Tyson Oil Company, Sour Lake		356	445
Teatsorth, L., et al, Property No. 2, Eastland		773	1,147
Texas Petroleum Company, San Antonio		34,718	42,701
Tannehill, L. B., Albany		61,997	88,015
Thomas, J. A., Burkburnett		1,898	2,760
Trinity Townsite Company, Dallas		732	697
Trans-Bay Oil Company, Galveston		60	60
Tower & McKanna, Inc., Wichita Falls		4,499	6,808
Teci Production Company, Breckenridge		2,930	3,825
Treat, E. M., Oil & Gas Company, Pittsburgh		20,526	27,442
Turner, J. H., Drilling & Production Company, Wichita Falls		13,299	17,240
Talbot & Markle, Ilfrey No. 1, Houston		60,926	75,222
Thaxton, W. H., Estate, Austin		312	436
Texas Petroleum Development Company, Cameron		5,576	7,512
Teatsorth, L., et al, Property No. 1, Eastland		1,868	3,004
Townsite Oil Company, Olney		204	292
Turman & Brown, Fort Worth		13,441	14,487
Turman, L. C., Fort Worth		79,258	62,271
Theis Oil Company, Sour Lake		4,967	6,232
Terry, H. W., Sour Lake		9,582	10,486
Talley & Irick, Shreveport		193	271
Thompson, J. E., Humble		620	785
The Texas Company, Houston		4,047,495	5,128,320
Texsota Pet. Company, Electra		213	313
Tillman, J. W. Humble		305	335
Thomasson, E. M., & Company, Inc. Denver		638	1,025
Texas Oil Underwriters, Brownwood		54	70
Triangle Petroleum Company, Fort Worth		885	1,292
Texas Consolidated Oil Company, San Francisco		13,783	19,765
Texas Pacific Coal & Oil Company, Thurber		302,401	340,285
Texas Pacific Coal & Oil Company, Thurber		55,431	91,227
Tegler, F. E., San Antonio		337	337
Towns, M. K., Luling		30,384	34,531
Teatsorth, L., et al, Property No. 3, Eastland		399	651
Tidal Oil Company, Tulsa		215,210	195,507
Turman Oil Company, Tulsa		17,151	24,521
Texas Unity Oil Company, Dallas		2,415	3,525
Transcontinental Oil Company, Tulsa		2,044,750	1,611,291
Transcontinental Oil Company, Tulsa		19,511	26,833
Transcontinental Oil Company, Tulsa		4,445	6,541
Triangle Oil & Gas Company, Rockdale		1,058	1,416
Tidwell, R. V., Tr., Graham		4,784	6,822
Tucker Oil Company, Wichita Falls		81,804	112,764
Texas Fidelity Oil Corporation, Fort Worth		8,594	13,677
Taylor-Bibley Syndicate, Dallas		2,119	3,128
Taylor-Link Oil Company, Houston		42,775	35,111
Trinity Production Company, Wichita Falls		385	548
Texon Oil & Land Company of Texas, Big Lake		199,889	124,064
Tripplehorn, D. R., Pampa		8,922	13,311
Tidwell, H. L., Tr., Graham		1,104	1,538
Tholl Oil Company, Beaumont		4,325	6,794
Thurber, C. J., Iowa Park		615	877
Travelers Oil Company, Amarillo		11,576	13,336
Timms, L. W., Oil Corporation, Amarillo		9,257	12,205
Timms-Dietsch Oil Corporation		6,911	8,957
Underwood Drilling Company (Perkins Lease), Wichita Falls		3,867	7,030
Underwood Drilling Company (Erwin Lease), Wichita Falls		1,764	3,160

XUM



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Tanks are simply drained and as much sediment as possible is mucked out. Then an Oakite solution is applied with long handled brushes and followed with a rinse. "This is the most effective means of doing the job that we have been able to find," says the superintendent.

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*Stocks of Oakite materials are carried in these cities.

OAKITE

TRADE MARK REG. U.S. PAT. OFF.

Industrial Cleaning Materials and Methods

Name	Address	Barrels	Value
Underwood Drilling Company (Ward A Lease),	Wichita Falls	3,837	5,454
Union Oil & Mining Company,	Tulsa	10,178	13,231
Unity Oil Company,	Beaumont	20,500	25,634
United Oil Corporation,	Wichita Falls	1,694	2,505
United Petroleum Company,	Brownwood	120	141
Usona Production Company,	Dallas	2,202	2,691
United Oil & Fuel Company,	Sour Lake	1,325	1,642
Underwood Drilling Company (U-C-Ward Lease),	Wichita Falls	1,717	2,389
Unice & Carpenter,	Houston	3,705	3,941
Upland Oil Company,	Pampa	2,676	3,440
Usona Production Company,	Dallas	768	1,190
United Royalties Corporation,	Wichita Falls	740	1,157
Union Production Company,	Rockdale	4,345	5,779
United Producers Company,	Wichita Falls	24,298	51,614
Vacuum Oil Company,	Houston	104,728	145,375
Victor Oil Company,	San Antonio	1,385	1,108
Venmex Oil Company of Texas,	Wichita Falls	56,931	85,719
Van Wormer, F. E.,	Wichita Falls	1,409	2,192
Virginia Oil Association, Inc.,	Fort Worth	2,663	3,900
Val Verde Oil Company,	Del Rio	1,738	2,007
Valerio, Inc.,	San Antonio	506	578
Van Cleave Trust,	Baltimore, Md.	615	898
Victor Oil Company,	San Anotonio	1,385	1,108
Weaver & Pois,	Wichita Falls	2,646	3,753
Whiteside, J. E.,	Brownwood	446	558
White & Duncan,	Wichita Falls	8,141	11,730
Wahoo Oil Company,	Rockdale	1,405	1,953
West, Mrs. Bessie M.,	Houston	2,566	3,212
Woodward & Lee,	Houston	7,607	8,229
Wallace, Dr. Chas. Wm. & Hulda B.,	Wichita Falls	23,496	35,470
Wetzel, Sophie,	Oconomowoc	4,552	4,675
Westervelt, Noble et al,	Oklahoma City	4,421	6,308
Williams & Williams,	Amarillo	1,224	1,124
White, James H.,	Wichita Falls	9,489	13,970
Woodburn Oil Corporation,	Dallas	4,046	5,669
Wilkins, L. A.,	Burkburnett	3,433	4,635
Wills Oil Company,	Rockdale	1,427	1,927
Wheelock & Collins,	Corsicana	14,846	21,663
Worth Oil Company,	Wichita Falls	152	212
Woods & Bennett,	Humble	7,002	8,797
Woody's, W. C., 1/6 int in C. W. Roller et al,	Wichita Falls	992	1,357
Witcher, W. C., et al,	Wichita Falls	374	573
Witcher, Annie L., Guardian,	Wichita Falls	4,205	6,362
Walker, A. C.,	Albany	3,408	4,458
Woodson Oil Company,	Woodson	3,403	4,403
Winstead, K. B.,	Breckenridge	2,709	4,244
Worth Oil Company,	Wichita Falls	165	231
Whiteside, J. E.,	Brownwood	2,229	2,786
Woods, C. D. & C. C.,	Ranger	2,026	2,788
Webb Oil Company,	Humble	4,747	5,972
Walton, T. J.,	Corsicana	61	71
Weiler, J. G., et al,	Cross Plains	2,121	3,122
Wilson Drilling Company (Comet),	Wichita Falls	3,367	5,050
Wolfe, A. T.,	Wichita Falls	4,012	5,718
Wilson Drilling Company (Rathke),	Wichita Falls	3,142	4,607
Wilson Drilling Company (K. K. "A. & B."),	Wichita Falls	2,908	4,341
Wilson Drilling Company (K. K. "C."),	Wichita Falls	384	536
Wilson Drilling Company (Snedeker),	Wichita Falls	78	96
Weekley Oil Corporation,	Fort Worth	4,478	3,913
Wakefield, M. E., et al,	Cross Plains	153	242
Wilson-Broach Company,	Beaumont	14,219	17,721
Wilcox, H. F. Oil & Gas Company,	Tulsa	82,362	110,589
Watts Oil Company,	Houston	3,667	4,078
West Production Company,	Houston	5,789	6,343
Woodley Petroleum Company,	Shreveport	10,072	15,536
Weldon Oil Company,	Saratoga	11,050	11,763
World Oil Company,	Fort Worth	6,859	5,014
Woods, C. D. & C. C.,	Ranger	178	281
Woods, C. D. & C. C.,	Ranger	757	1,013
Why Not Oil Company,	Mexia	8,933	12,167
Westheimer & Daube,	Ardmore	1,412	1,834
West, J. H.,	Cisco	6,110	8,572
White Eagle Oil & Refining Company,	Kansas City	53,627	57,382
Whaley Mineral & Realty Trust,	Fort Worth	2,342	3,291
Whaley Mineral & Realty Trust (Mch),	Fort Worth	2,361	3,094
Wilson, Lee, et al,	Wichita Falls	5,663	8,136
Ward Oil Corporation,	Ardmore Okla.	122,860	83,611
Wampem Oil Corporation of Texas,	Dallas	516	722
Warner-Quinlan Company of Texas,	Dallas	203,389	163,934
Wentz, L. H.,	Ponca City	45,209	43,208
Walker, B. S.,	Breckenridge	660	825
Wood, Benton, Lesh & McCall,	Nocona	5,963	5,665
Wilbarger Oil Company,	Wichita Falls	2,550	3,147
Wichita Production Company,	Wichita Falls	11,566	16,184
Western Oil Sales Corporation,	Wichita Falls	2,306	3,656
Weister, E. P.,	Tulsa, Okla.	3,501	4,744
Witherspoon Oil Co. and C. C. Witherspoon,	San Antonio	68,082	63,112
Witherspoon Refining Company,	San Antonio	4,388	4,811
Whitehill Oil Corporation,	Tulsa	4,041	5,881
Wise and Jackson,	Sapulpa	4,755	6,493
William, Burt,	Wichita Falls	859	1,194
Waggoner, E. P. & C. F. Kolp,	Electra	8,271	11,428
Webb, J. R. & J. H. Bryant,	Corsicana	376	339

Name— Address	Barrels	Value
Webb, J. R., Corsicana	251	313
Wolf, D. L., Olney	532	714
Waggoner Refining Company, Inc., Electra	392,235	525,453
Yount-Lee Oil Company, Beaumont	2,816,027	3,300,717
York Petroleum Company, Stamford	76	107
Young Brothers & Alexander, Inc., Fort Worth	5,187	7,632
Young Brothers & Alexander, Inc., & Woodley Pet. Company, Fort Worth	10,071	15,536
Zadie Belle Oil Company, Fort Worth	532	826
Ailes, J. W., Wichita Falls	695	973
Briggs, R. F., C. O. Smith & T. C. Steiner, Corsicana	72	90
Cole Petroleum Company, Laredo	41,675	35,137
Dorothy Oil Company, Eastland	453	650
Eubanks, R. O. & B. K., Cross Plains	872	1,246
Foster, Rebout, Sullivan & Elrod, San Angelo	5,131	6,562
Foster, Elrod & Tucker, San Angelo	1,352	1,822
Grayback Development Corporation, Wichita Falls	4,894	7,128
Greene Production Company, Fort Worth	40,660	46,412
Harbin, Wiley, et al, Eastland	2,814	3,571
Hawley, J. A., Guardian, Ottawa, Canada	206	267
Hueco Ranger Oil Company, El Paso	218	280
Jones, J. F., et al, Abilene	260	345
Johnson & Fraser, Wichita Falls	53,344	77,576
Lloyd Oil Corporation, Fort Worth	17,583	22,858
Lowry Oil Corporation, Wichita Falls	5,082	7,298
McFall, J. M., Wichita Falls	907	1,322
Onsen, M., Kansas City	964	1,406
Pois & Johnson, Wichita Falls	184	300
Ross, C. E., Burkburnett	559	799
Robertson Drilling Company, Fort Worth	2,046	2,833
Robertson, R. R., Wichita Falls	22,391	29,658
Ray Morgan, et al, Fort Worth	969	1,403
Ruthada Oil Company, Oklahoma City	15,204	15,366
Shaw, Neil K., et al, Brownwood	80	100
S. & W. Oil Company, Amarillo	14,422	13,236
Saigh, N. A., San Antonio	1,372	1,743
Southern Exploration, Inc., Sistersville, W. Va.	45,102	55,129
Tex-Cal Oil Company, Brownwood	495	619
Wills, O. C., Burkburnett	906	1,220
Weiler, H. J., Wichita Falls	348	487
Weller, C. A., Brownwood	43	56
Williams, John H., Dallas	5,337	7,481
Washoma Petroleum Company, Enid, Okla.	3,416	5,136
Glasscock, Lonnie, Big Spring	18,078	13,974
Ross, Dwight M., Wichita Falls	1,311	1,909
Seaboard Oil Gas Company of Texas, Wichita Falls	36,757	53,795
Nabob Oil & Gas Company, Amarillo	9,820	13,831

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

OKLAHOMA

Company, Well and Loctaion	Initial Production Bbls.	Depth
BECKHAM COUNTY—		
Pease et al, Pederson 1, ne nw, 23-9n-23w	*	2784
Producers Exploration Co., Seidel, se sw sw, 17-9n-23w	*	2402
M T C Oil Co., Abbott 1a, ne, 35-9n-22w	*	1500
CADDO COUNTY—		
W. J. Hartley et al, Galbreath 1, se nw se, 29-5n-12w	*	3394
Caddo Oil Co., Bontrager 1, nw ne nw, 9-5n-9w	*	2420
Bullock et al, Rigney 2, sw nw nw se, 12-5n-9w	*	2130
COTTON COUNTY—		
Payne and McGaha, Beck 1, nw sw sw, 19-4s-11w	*	3505
Perkins and Cullum, Smith 4, sw se se 34-1s-10w	10	2198
Shasta, Slogan 1, nw sw nw ne, 2-2s-10w	100	2140
CREEK COUNTY—		
Wells et al, Tahladge 3, cwl nw nw, 10-18-11e	*	1890
Texas, Baker 2, se ne se, 14-17-10e.	30	1929
Carter, Durant 1, ne, 18-16-9e, (OWDD)	1015	3011
Texas Pacific Coal & Oil Co., Beaver 8, sw nw nw, 17-16-9e	15	2678
GARVIN COUNTY—		
Tidal, Halverton 1, c sw ne, 8-4n-2e.	*	4055
HUGHES COUNTY—		
Jarvis and Holm, Street 3, se nw nw, 21-7-8e	75	3132
Furhman, Buck 2, (OWDD) c sw sw, 21-9-10e	¶6	2766
JACKSON COUNTY—		
Houseman et al, Northington 1, ne, 4-1n-20w	*	2020
JEFFERSON COUNTY—		
Pearce and Brown, Fisher 1, se sw, 13-6s-7w	*	2501
KIOWA COUNTY—		
B. M. Hyde, Ballard 1, se, 22-3n-18w	*	510
Conner and Son, Geis 1, se nw ne, 26-7n-16w	*	2535
George Eshelman et al, Foster 1, ne sw nw, 18-6n-16w	20	396
MUSKOGEE COUNTY—		
J. E. Neeley, Cherry 11, csl se nw, 14-14-16e	*	1505
OKFUSKEE COUNTY—		
Mid-Continent, Dindy "C" 2, sw se ne, 31-11-11e	¶2	3129
Champlin Ref., Jacobs 13, se 15-11-11e	6	1670
OKMULGEE COUNTY—		
Misener and Mid-Continent, Lowery 2, cel ne sw, 10-15-14e	15	1003
Kirkland and Son, Brooks 4, sw se sw, 17-15-13e	8	1535
Sheridan, Salee 2, sw ne nw sw, 3-15-11e, (OWDD)	5	2264

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This week	Completions Last week	Producers This week	Producers Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Alabama	1	..	..	..	..	..	1	..	...	...
Arkansas	9	..	5	..	..	..	4	..	520	...
California	16	18	13	14	..	..	3	4	16,460	15,025
Illinois	8	28	5	28	..	..	3	..	97	1,311
Indiana	13	1	3	1	1	..	9	..	90	15
Kansas	24	24	12	11	..	..	12	13	7,970	4,155
Kentucky	26	32	21	27	2	1	3	4	1,765	747
Louisiana	21	16	8	5	6	4	7	7	1,851	4,920
Michigan	9	5	8	5	..	..	1	..	2,060	2,850
New Mexico	1	5	1	2	..	..	..	3	75	894
New York	..	13	..	13	..	..	..	..	...	42
Ohio	64	43	19	22	24	11	21	10	362	222
Oklahoma	52	65	28	34	3	6	21	25	6,802	15,474
Pennsylvania	51	92	49	86	1	2	1	4	137	248
Texas	195	144	103	77	12	13	80	54	98,335	16,327
West Virginia	29	15	7	11	19	2	3	2	122	123
Total	519	501	282	336	68	39	169	126	136,646	62,353
Increase this week	18	..	6	..	29	..	43	..	74,293	...
Decrease this week	..	..	54	..	..	..	..	..	...	...

Company, Well and Loctaion	Initial Production Bbls.	Depth
OSAGE COUNTY—		
Oklahoma Power and Water, 116, nw sw, 28-21-10e	*	2505
Jennings 1, nw sw, 32-29-12e	5	854
Osage Gas Producers, 394, ne sw sw, 29-28-11e	¶1½	1848
Silurian, 57, ne nw nw, 17-23-12e.	40	1539
Ray Branstetter et al, 1a, se sw, 23-23-10e	40	1781
Branstetter and Barnsdall, 4, cel se, 22-22-11e	20	1645
Moore et al, 8, nw ne nw, 16-21-9e.	20	2058
PAWNEE COUNTY—		
C. C. Chamberlain, 1, sw nw, 26-20-9e	80	2157
POTTAWATOMIE COUNTY—		
Magnolia, Pugh 1, (OWDD) sw se se, 7-7-5e	*	4356
Carter, Akin 1, ne se, 2-7-4e	*	4377
T. B. Slick, Bledsoe 2, sw nw, 20-6-4e	*	4092
Wilcox, Smith 7, sw ne se, 8-8-5e.	395	4060
Warner-Quinlin, Light 1, ne se, 18-7-4e	100	4178
Independent, James 2, ne se sw, 17-7-4e	600	4210
Darby, Youngblood 5, sw ne nw, 16-7-4e	500	4055
Independent and Westland, Rhodd 4, se nw nw, 16-7-4e	265	4153
Magnolia, Mull 1, (OWDD) ne se, 15-7-4e	¾	4185
Martin and Erwin, Kelly 3, nw ne ne, 2-7-4e	480	4245
SEMINOLE COUNTY—		
Pure, Pepper 1, se ne sw, 22-7-6e.	*	3665
Magnolia, Reed 6, se ne, 22-7-6e.	*	3173
Barnsdall, Hotulke 5, ne se, 22-7-6e.	*	3150
Gypsy, Nevins 3, sw nw se, 32-10-6e	310	4327
Pure, Bryan 2, nw, 14-9-7e	60	4212
Continental, Johnson 4, ne se nw, 18-9-7e	2550	4035
Devonian, Harjo 1, ne nw nw, 18-9-7e	30	3565

KANSAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
CHASE COUNTY—		
Shedy et al, Hugh "B" 1, ne se, 24-21-9e	30	2272
ELLIS COUNTY—		
Phillips, Johnson 1, sw ne, 9-13-19w	100	3595
Burgher et al, Hadley 1, sw nw, 20-11-17w	60	3440
Davis, Hazlett et al, Weland 3, se ne ne, 1-13-16w	100	3115
Phillips, Heider 1, ne sw, 8-12-17w.	*	4017
GRENWOOD COUNTY—		
Ward and McGinnis Bros., Anderson 1, ne nw sw, 13-25-10e	*	1970
Empire, Patterson "B" 2, cwl sw nw, 36-23-11e	*	2424
Theta, Storrer 1, se ne sw, 15-22-12e.	*	1780
Empire, Norton "B" 2, se sw se, 15-22-12e	*	1907
Empire, Nicholl 1, nw ne, 28-22-10e.	*	2914
MARION COUNTY—		
Tidal Oil, Ewert 2, ne sw sw, 7-19-3e	30	2871
Shell, Scully 1, ne ne, 34-18-2e.	*	3002
RUSH COUNTY—		
Bamsdall, Brock 1, se 21-17-17w.	*	3606
RUSSELL COUNTY—		
Texas, Leonard 2, sw nw nw, 6-13-15w	40	3026
Liggett et al, Gibbs 1, nw, 20-12-15w	75	3020
Allison and Fitzwilliams, Mahoney 1, nw se, 5-14-12w	*	3387
SEDGWICK COUNTY—		
White Eagle, Robbins, se ne se, 20-28-1e	275	3109
Bu-Vi-Bar et al, Lantz 3, cwl e½ se, 12-26-1w	555	3365
Shell, LyGrisse "B" 1, se nw sw, 15-26-2e	840	2900

Company, Well and Location	Initial Production Bbls.	Depth
Ramsey et al, Mason 3, se nw se sw, 15-26-2e	1200	2933
Sullivan et al, Worford 1, ne nw nw, 29-28-1e	*	3606
R. G. Hammond et al, Roeder 1, sw nw, 23-27-2w	*	4186
SUMNER COUNTY—		
Gypsy, Enderend 1, se nw sw, 16-35-3w	2665	4764
Gypsy and Blankenship, Bobek 1, c sw nw, 27-34-4w	*	5053

CALIFORNIA

ATHENS-ROSECRANS—		
Union Oil Co., Rosecrans 11	650	5615
BELRIDGE—		
Ohio Oil Co., No. 30, 30-28-21	60	1110
LONG BEACH—		
Pannell Drilling Co., No. 2	200	4350
SANTA FE SPRINGS—		
General Petroleum Corp., S. F. S. 179F	3500	6940
S. F. S. 224	2000	6800
Shell Oil Co., Slusher B1	2200	6850
Standard Oil Co., Jordan 7	3500	7970
Johnson 7	1800	8050
York and Lockhar No. 2	600	6750
SEAL BEACH—		
Marland Oil Co., Bixby 14	1500	4650
SUNSET—		
Union Oil Co., Houchin 4	150	5560
VENTURA—		
Shell Oil Co., Gosnell 33	200	7380

EASTERN STATES

PENNSYLVANIA

BRADFORD FIELD—		
South Penn Oil Co., Jones 5	2	....
Jones 6	2	....
Hazlewood Oil Co., Allegheny 50	2	....
Allegheny 85	2	....
Hazlewood, (nine oil wells)	9	....
Bingham 186, tr 1	7	....
Lot 1, tr 12	2	....
Mix Creek Oil Co., Mix Creek, 66, 67, 68, 69, 70	pressure	....
Mix Creek 71	2	....
L. F. Kinley, Mantz 52	2	....
Howard McCollum, Bingham 291, tr 95	7	....
R. S. Pringle, Bingham 464, tr 30	3	....
T. P. Thompson, Jr., Gilpin 11	2	....
Gilpin 12	2	....
Gilpin 13	2	....
Newton-Smith Oil Co., Chapin, (2 wells)	pressure	....
Hawkins (3 wells) pressure		
D. W. Daly, Bingham 369, tr 2	2	....
Lane & Co., Bingham 371, tr 57	2	....
T. H. Kennedy, Bingham 10	2	....
C. A. Duke, Hemlock 5	2	....
D. J. Moody, Moody 30	3	....
Healey Pet. Co., Healey 18	pressure	....
Robert Jones, Franchot 20	2	....
L. S. Letson & Co., Letson 2	3	....
Cora M. Simons, Corwin 14	2	....
W. T. Pipe, Borden 13	2	....
Grow Farm Oil Co., Grow 3	4	....
L. G. Schenfield, Schenfield 44	3	....
Denwood Oil Co., Huntington 13	3	....
Schropperle Bros. Duke 7	3	....
A. Schorman, Saunderson 2	3	....
W. C. Kennedy Co., Kennedy 14	4	....
Jane Zane Est., Quintruple 18	2	....
D. & P. Oil Co., Franchot 12	2	....
McCandless & Co., Burns 7	2	....
W. B. Milker, Borden 2	3	....
Storm & Coast, Haines 1	3	....
BUTLER COUNTY—		
Coler, Young & Co., Layton 6	2	....
John Rabbitt, Slater 2	2	....
Berry & Robinson, Robinson 1	2	....
Rigney, Hamilton & Co., Campbell 7	2	....
H. R. Edelburn, Barkely 8	2	....
VENANGO COUNTY—		
Hamilton & Surrena, Surrena 26	3	....
S. G. Milton, Milton 81	2	....
H. C. Craig & Co., Berringer 3	2	....
C. L. Irwin, McKee 7	2	....
Ladd & Cobb, Dana 7	2	....
E. A. Burch, Fowler 14	2	....
M. H. Snyder & Son, Fry Bros. 1	2	....
Thos. McLaughlin, McLaughlin 18	2	....
W. B. Kapp & Co., Sporer 2	2	....
WASHINGTON COUNTY—		
Carnegie Nat. Gas Co., Stewart Hrs. 1	*	....
GREENE COUNTY—		
South Penn Oil Co., Pyles 1	10	....
Consumers Fuel Co., Anderson Hrs. 6	¶1¼	....

WEST VIRGINIA

BOONE COUNTY—		
Owens Bottle Machine Co., Bedford 17	*	....
Chambers 1	¶2	....
Powell 1	¶2	....
Hope Nat. Gas Co., Washington Wash. Dist., 7243	¶2	....
LINCOLN COUNTY—		
Earl Cameron, Stone 4	¶¼	....
L. R. Sweetland, Hqlton 46	¶¼	....
Allegheny Gas Corp., Curry 4	¶¼	....
CABELL COUNTY—		
Cambridge Gas Co., Roy 1	¶½	....
C. C. Wolfe, E. B. Conley 1	¶½	....
Harshberger Oil & Gas Co., C. & O. Railroad 1	¶1	....
ROANE COUNTY—		
Ohio Fuel Gas Co., Littlepage 2955	¶1¼	....
Ogden 3913	¶1½	....
W. S. Dailey & Co., Jones 1	*	....
PUTNAM COUNTY—		
E. H. Harford & Co., Tompkins Heirs 1	¶2	....
Celia O&G Co., Torney 4	¶2	....
RALEIGH COUNTY—		
United Fuel Gas Co., Rowland Land Co. 1	¶1½	....
W. H. Kirtley, Marsh Fork 1	¶1¼	....
GILMER COUNTY—		
C. M. Bennett & Co., Burton 2	¶1	....
McCall & Co., Brymyer 1	¶1¼	....
MONONGALIA COUNTY—		
Philadelphia Oil Co., Keck 2	50	....
JACKSON COUNTY—		
South Penn Oil Co., McCarthey 7	25	....
HARRISON COUNTY—		
Warner Bros. & Co., Varner Heirs 1	10	....
WOOD COUNTY—		
South Penn Oil Co., Ralston 26	5	....
WIRT COUNTY—		
Daily Bros., Lewis 1	5	....
CLAY COUNTY—		
Virginian Gasoline & Oil Co., Brown-Sloan 19	25	....
WETZEL COUNTY—		
Maxon Oil Co., Shea 12	2	....
CALHOUN COUNTY—		
Hope Nat. Gas Co., Lee District 7261	¶1½	....
KANAWHA COUNTY—		
Columbia Carbon Co., Quick Land Co. 10	¶1¼	....
MARION COUNTY—		
J. J. Allen, Snodgrass 1	*	....

KENTUCKY

DAVIESS COUNTY—		
Shell, Weatherford 1	75	....
Goldburg, Young & Co., Purcell 7	35	....
Purcell 8	35	....
The Petroleum Co., Hansford 4	10	....
Ohio Oil Co., Ruby 3	15	....
McMahan & Co., Wilson 1.300 acres 1	*	1850
CALDWELL COUNTY		
Caldwell Oil & Gas Co., Jenkins 1	¶1½	....
S. B. Wilson & Son, Son 1	¶2	....
McLEAN COUNTY—		
Roy Hogan & Co., Atherton 1	*	....
OHIO COUNTY—		
H. L. Ogle & Co., Royal 11	100	....
C. E. Daugherty & Co., Trodgen 8	110	....
Trodgen 9	125	....
Trodgen 10	125	....
Trodgen 11	160	....
Ohio Oil Co., Kirk 8	70	....
Kirk 9	60	....
Kirk 10	100	....
Kirk 11	100	....
Kirk 12	200	....
Kirk 13	180	....
Rex-Pyramid Oil Co., Hoover 1	100	....
Jas. C. Ellis & Co., Greer 5	35	....
Greer 6	30	....
Greer 7	80	....
S. H. Russell & Co., Greer 7	20	703
Russell & Randolph, Kelley 2	*	720

SOUTHEASTERN OHIO

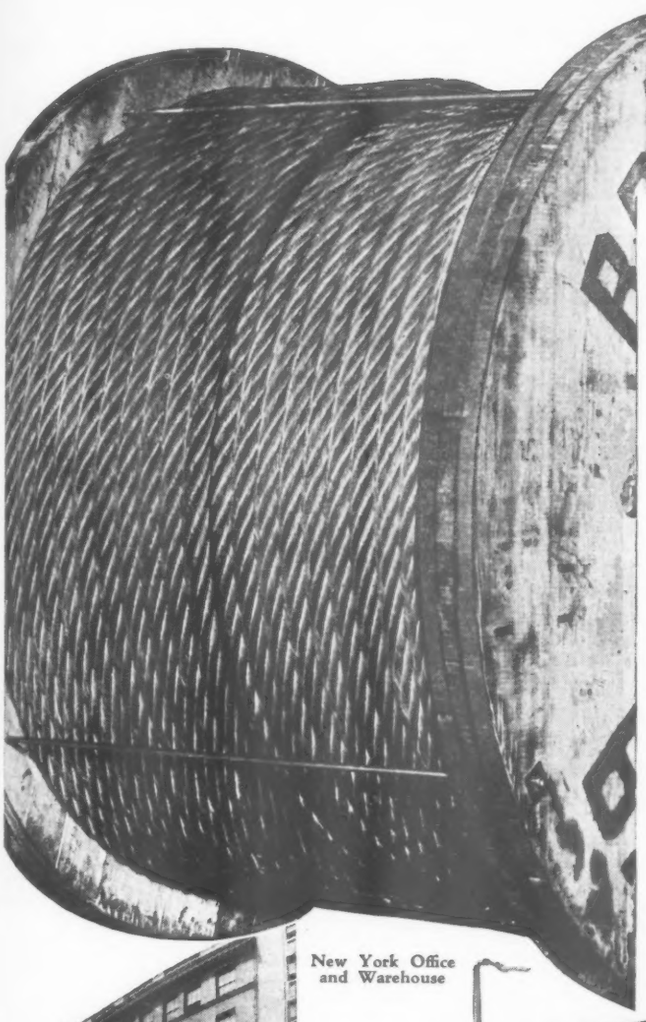
MORGAN COUNTY		
Skipton Farm Oil Co., Scoffield 16	*	....
Patterson Oil Co., Patterson 22	5	208
Helenic Pet. & Gas Co., Harrison 1	¶¾	744
Choquill & Co., Crew 6	*	327
Malta - McConnersville Gas Co., Weatherell 6	*	1666
Rev. David Lang & Co., Bingman 7	¶¼	1568
Ohio Fuel Gas Co., Janes 1	¶¾	1600
WASHINGTON COUNTY—		
Sheets Oil Co., Jones Heirs 4	2	....
Henderson & Co., Whittekind 20	5	1245
Bickle & Co., Benson 1	*	1426
Ohio Fuel Gas Co., Perry 1	*	1941
MONROE COUNTY—		
Lucas & Thornberry, Hines 5	¶¼	2002
Bode & Parks, Neib 5	25	....
Frank Burkhart, Burkhart 6	*	1445
NOBLE COUNTY		
Kemrow Co., Danford 1	*	1638
Albert Miller & Co., Williams 8	2	....
Jacob Lauer & Co., Jenkins 1	2	....
J. H. Richardson & Co., Wiper Heirs 2	*	....

CENTRAL OHIO

STARK COUNTY—		
Hill Top Oil Co., Holler 2, 3	*	....
McChesney Register Co., Fee 1	*	....
PERRY COUNTY—		
Pure Oil Co., Gabriel 2	¶¼	3458
Wehrle Gas Co., Wright 1	¶1¼	....
Griffin O&G Co., Nutter 2	¶½	2982
Hope Construction & Ref. Co., McCune 6	46	3568
Kisling Drilling Co., Clark 4	¶¼	728
ATHENS COUNTY—		
Ohio Fuel Gas Co., Winget 1	¶1	461
Hill 2	¶¾	506
Kinnan 6	¶¼	979
Sargent 1	¶1	1609
Richardson 2	¶1½	1025
MEIGS COUNTY—		
Co-operative Oil Co., Clark 2	20	1132
Preston Oil Co., Reefer 2	¶¼-5	1818
Cochran & Co., Wolf 1	*	590
H. McTaggart & Co., Rowley 6	*	....
ASHLAND COUNTY—		
Robinson & Co., Peters 1	2	612
Shaffer 1	20	636
Davis & Co., Chesrown 2	50	599
MEDINA COUNTY—		
Ohio Fuel Gas Co., Gault 1	¶¼	....
Harmon & George, Stair 3	*	2855
Roy C. Jones, Falconer 3	4	....
LICKING COUNTY—		
Ohio Fuel Gas Co., Cooperider 2	¶¼	2918
Stasel 1	4	646
McClay Bros. Hoover 1	¶¼	754
SUMMITT COUNTY—		
F. A. Brendall & Co., Kepler 1	¶¾	4180
Wise 1	¶11	4050
East Ohio Gas Co., Leighton 1	¶10	....
WAYNE COUNTY—		
Garn Wooward & Co., Ely 1	*	591
Bryan & Co., Clark 3	*	547
Hulse & Kundtz, Myers 1	*	....
GUERNSEY COUNTY—		
North Salem Oil & Gas Co., Gray 1	85	3562
Ohio Fuel Gas Co., Wycoff 3	*	1314
HOCKING COUNTY—		
Ohio Fuel Gas Co., Andrews 1	¶1½	2370
Gordon Oil Co., Stone 10	5	2879
KNOX COUNTY—		
Ohio Fuel Gas Co., Hyatt 1	¶2¾	....
Harry Perkins, Garmer 1	¶¼	2490
BELMONT COUNTY—		
Frank Stranges & Co., Rehn-Overbaugh 1	*	1898
W. C. McBride, Inc., Jones 1	*	1480
LORAIN COUNTY—		
Ohio Fuel Gas Co., Clark 2	¶3	....
HOLMES COUNTY—		
Ohio Fuel Gas Co., Harmon 1	¶1	....
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Tarris 1	*	....
MUSKINGUM COUNTY—		
Ohio Fuel Gas Co., Smith 1	*	3473

NORTHWESTERN OHIO

SHELBY COUNTY—		
A. Ernst Heillers 1	30	1332
WOOD COUNTY—		
Home Banking Co., Foos 2	25	1281
HANCOCK COUNTY—		
L. Cramer, Shank 2	25	....



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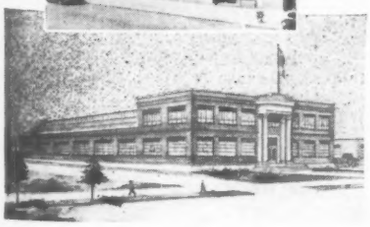

New St. Louis Office

Portland, Oregon Warehouse

Seattle Factory

BRODERICK & BASCOM DRILLING LINES

NR695

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
SPENCER COUNTY—		
Ellis & Young, Bretz Hrs. 1	*	....
Wm. Bretz 2	*	1349
Hoffman 1		1500
Packard Oil Co., Carlton 7	35	818
Davis & Co., Butler 1	*	1150
ADAMS COUNTY—		
A. C. Spindler, Teeter 1	*	....
G. S. Lacknett, Egley 1	15	....
PERRY COUNTY—		
Packard Oil Co., Beaver 1	*	795
GIBSON COUNTY—		
Gem Oil Corp., Ferris 2	¶2	336
E. C. Whomer & Co., Cantrell 1	*	1659
PIKE COUNTY—		
Roxana Petroleum Corp., Price 1	*	1480
William Bell & Son, Hoagland 1	*	1753
DAVIESS COUNTY—		
L. G. Gee & Co., Veale 3	40	1335

ILLINOIS

WABASH COUNTY—		
J. S. Young & Co., Keyser 12	25	1464
Mt. Carmel Oil Co., Leek 10	15	1556
Ridge Farm Oil Co., Price 9	*	1580
Ramsey Oil Co., Ramsey 2	*	1568
CRAWFORD COUNTY—		
Porterville Oil Co., Granby 1	50	970
Ohio Oil Co., Drake 29	5	1019
Selby-Cisler Prod. Co., Ford 18	2	997
HAMILTON COUNTY—		
Unknown Parties, Near McLensboro 1	*	2554

MICHIGAN

MUSKEGON COUNTY—		
Nelson & Witt, Horton 3	500	2057
Horton 2	500	2062
John R. Cox & Co., Nichols 1	350	2045
Muskegon Oil Corp., Daniloff 7	200	....
Concord O&G Co., Giles 2	25	2030
Swastika O&G Co., Luenstra 1	75	2051
Witt & Wyant, Fenner 5	50	1700
Puritan Oil Co., Plunkett 1	*	2020
ISABELLA COUNTY—		
Pure Oil Co., Fox 1	360	3590

ARKANSAS

OUACHITA COUNTY—		
Magnolia Prod. Co., Linihan B-5, 36-15-16	20	2013
Phillips Pet. Co., Scott 2, 34-15-15	246	1979
Phillips Pet. Co., Scott 3, 34-15-15	189	2002
UNION COUNTY—		
O. W. Estes, Rowmand 3, 14-17-14	*	3253
Ohio Oil Co., M. H. Nash 1, 7-17-13	*	3283
Pure Oil Co., E. F. Gregory 10, 10-17-14	50	3158
E. L. Chapman, Bradley 1, 2-16-16	15	2050

NORTH LOUISIANA

CADDO PARISH—		
H. J. Bussa, Huckabay-Odell 7, 15-21-15	15	1710
W. D. Chew, Levee Board C-1, 34-21-16	40	1826
W. D. Chew, Levee Board C-2, 34-21-16	2	932
Falcon Oil Co., Nunnely 1, 29-20-15	40	2326
MOREHOUSE PARISH—		
Grecian Band Gas Co., Seacrease 1, 14-20-4e	¶7	2185
OUACHITA PARISH—		
La-Del Oil Prop. Inc., Fee 46, 30-20-3e	¶1½	2191
J. B. Bond, Bumgarten 2, 19-19-4e	¶3	2190
Pipes & Mack, Schultz 1, 13-18-4e	¶¼	2236
J. Potts, Tr., Potts 3, 7-18-4e	¶3.8	2223
Magnolia Pet. Co., Fee 404-Well 2, 12-19-5e	¶12	2304

SOUTH LOUISIANA

BELLE ISLE—		
Freeport Sulphur Co., Belle Isle 3	*	1515
LOCKPORT—		
Vacuum-Gulf, Bordages 7	250	3766
Fee A-3	200	3799
LOREAUVILLE—		
Gulf, State Z-10	*	3590
THIBODAUX—		
Texas Gulf Sulphur Co., Stark 23	*	1600
Gulf, Stark 14	*	1266
VINTON—		
Rex. Pet. Co., Matilda Gray 2	1200	3230

TEXAS

TEXAS GULF COAST

BARBERS HILL—		
Sun Oil Co., Chambers County Agri. Assn. 3	2200	4666
Humphreys Corp., Kirby H-3	1800	5248
BIG CREEK—		
The Texas Co., Wheat 2	*	4183
CLAY CREEK—		
Sun, Landroff 1	*	1784
DAMON MOUND—		
Sinclair, Norton 6	*	4403
L. & M. Prod. Co., Wisdom 4	*	3618
FANNETT—		
Gulf, Thomas 11, wo	150	5640
GOOSE CREEK—		
Gulf, Ashbell-Smith 25	*	3700
HIGH ISLAND—		
Marrs McLean, Cade 15	150	4009
LOST LAKE—		
Pure Oil Co., Mayes 3	950	2797
PIERCE JUNCTION—		
Navarro-Humble, Cain 4-A	200	5067
Gulf, Taylor 23, wo	200	5230
RACCOON BEND—		
Humble-Valley, Bellville School Lds 2	*	3725
Grawunder B-3	*	1104
R. Hardy 5	*	3643
R. R. Jackson 1	*	3542
REFUGIO—		
Houston Gulf Gas Co., Ryals 5	¶60	3680
Mission Dr. Co., Powers 2	*	4508
Saxet Oil Co., Claud Heard 5	*	3682
Claude Heard 9	300	3682
Morgan Oil Corp., City 1	500	3675
Houston Oil Co., Rea 2	(40	3667
W. L. Pearson Tr., Simpson 1	240	3664
SAN FELIPE—		
Kirby Pet. Co., Vaughn 1	*	3320
SPINDLE TOP—		
Yount-Lee Oil Co., Gladys City 71, wo	*	2848
McFaddin 62, wo	725	5222
McFaddin 112	*	5020
SUGARLAND—		
Humble, Sugarland Industries 9	450	3751
Nelson 5	500	3684

SOUTHWEST TEXAS

SALT FLAT—		
Humble, C. F. Dye 7	300	2692
F. Gray 1-B	*	2833
F. Gray 6-C	50	2690
Moses & Baggett 13-B	300	2691
T. A. Tiller 7	300	2664
Nash-Windfohr-Perry, Cavis C-3	125	2736
Shell, Clyant Smith 2	*	2688
CALDWELL COUNTY—		
The Texas Co., W. T. Cude 1, s Dale	200	1836
DUVAL COUNTY—		
Sun Oil Co., Lopez 1, Kohler ranch	*	2900
Humble, Kohler 34	¶10	1796
Magnolia, Hahl 7-B	90	2305
JIM HOGG COUNTY—		
Alworth, Stevens, Hild, Garza 14	*	2204
Magnolia, F. G. Martinez 1	¶40	1914
SAN PATRICIO COUNTY—		
Houston Gulf Gas Co., Welder 3, Felipe Roqueportilla sur.	*	5069
TRAVIS COUNTY—		
Austin Prod. Co., McAngus 1	*	1350
WEBB COUNTY—		
Usher Carson Benovides 2, sur 1633, blk 11	*	2515
Trapshooter Reilly, Benavides 2	40	3076
Southern Oil Co., King-Harper 1	¶10	1733
ZAPATA COUNTY—		
Killam-Duggan, Cuellar 6	150	1591
O. W. Killam, Cuellar 15	15	1481
H. Muckleroy, Jr., Trevino 3	50	1291
South Texas Prod. Co., Joe Jennings 1	*	2850

EAST TEXAS

PANOLA COUNTY—		
Adams & Waller, Adams 6, B. C. Jordan sur	¶1	954
D. Thomason, Trosper 3, Jane Tharpe sur	¶1	2365
BOGGY CREEK—		
Humble, A. E. Todd 3-A	72	3890
RUSK COUNTY—		
La. Pet. Co., Alford 1	*	3500

EAST CENTRAL TEXAS

MILAM COUNTY—		
Elbert Williams et al, Shegret 1	*	3502
NAVARRO COUNTY—		
Haskell et al, Strange 1	*	1275

NORTH TEXAS

ARCHER COUNTY—		
L. G. Bradstreet et al, Pruett 2	*	720
L. T. Burns et al, Turbeville 2-C	*	1525
Bridwell Oil Co., DeMoss 1	*	1352
Gilliland & Rosser, O'Donnell 1	*	1422
Douglas Oil Co., McClure 1-A	130	1297
Goldsmith & Junker, Kunkle 1	275	1154
C. B. Long & Texas Co., Lauster 1	*	1301
Magnolia Pet. Co., W. H. Downing 1	*	605
Panhandle Ref. Co., Parkey 1	*	1601
Shappell Oil Co., Lyles 10	25	1701
COOKE COUNTY—		
Faith Oil Co., Perkins 1	*	2001
Humble O&R Co., Poteet 5	190	1512
Shell Pet. Corp., Fields-Bowers 3	155	1206
ELECTRA—		
Hamilton et al, Emmett 1	*	2007
E. H. Pigg et al, Foster-Allen 1	*	1927
HASKELL COUNTY—		
Cowboy Evans et al, Reynolds 1	*	1819
JACK COUNTY—		
J. L. Art et al, Raley 1	60	3148
Brazos River Gas Co., Keyser 1	¶4	2872
Panhandle Ref. Co., Box 2	40	3125
MONTAGUE COUNTY—		
Archer Drl. Co. et al, Salmon 1	30	950
Bridwell Oil Co., Edmondson 5	35	1106
THROCKMORTON COUNTY—		
Hays & Hodges, Matthews 2	*	1235
WILBARGER COUNTY—		
Apple & Brandeberry et al, Waggoner 3	55	2337
C. P. Burton et al, Waggoner 3-G	30	2415
Clark & Cowden, Waggoner 1	*	1565
Empire Gas & Fuel Co., Waggoner 9-A	150	1866
Waggoner 18-B	60	2348
Waggoner 20-B	110	2320
Fain & McGaha, Waggoner 12-W	200	2309
Golding & Cochran, Waggoner 2-J	190	2421
Grayback Dev. Co., Waggoner-Grace 1	75	1878
Knight et al, Waggoner 3-F	*	1885
Lewis Prod. Co., Waggoner 10-A	30	2406
Melat Oil Co., Waggoner 8-A	10	2004
Phillips Pet. Co., Waggoner 4-DD	75	2300
Waggoner-Norwood 5	325	2370
Simpson-Fell Oil Co., Waggoner 2-A	100	2370
Staley-Wynne & Co., Waggoner 5-B	*	1959
Waggoner 2-E	200	1885
Waggoner 1-Y	*	2452
The Texas Co., Waggoner 20-E	70	1887
Venmex Oil Co., Waggoner 1	*	2507
Waggoner Ref. Co., Waggoner 9-J	100	2421
Waggoner 3-M	165	1873
YOUNG COUNTY—		
Bratcher et al, Holt 1	*	600
Stratton 1	*	625
Campbell et al, Campbell 1	35	895
Carpenter et al, Barrett 6	10	635
Barrett 8	5	643
Hawkins et al, Owen 3	*	755
Owen 5	25	745
Holbrook & Woods, Dean 1	25	510
Dean 2	9	553
Panhandle Ref. Co., Pittman 5	*	750
Parks et al, Johnson 1	4	615
Richardson Oil Corp., Prideaux 1	15	709
Prideaux 2	*	655
Riggs et al, Marshall 1	*	555
Ryan et al, Johnson 1	*	601
Willis et al, Harmon 1	*	651
Wise & Jackson, Cullers 1	35	586
Wootten & Reed, Stratton 1	*	668

TEXAS PANHANDLE

CARSON COUNTY—		
Cities Service Gas Co., Burnett 18	¶51	2480
GRAY COUNTY—		
Danciger O. & R. Co., H. K. Beck 2	¶8-3200	2845
Empire G. & F. Co., J. G. Moel 1	350	3333
Gulf Prod. Co., Jackson 2	55	3085
Jackson 6	1400	2946
Jackson 7	630	2968
McMan O. & G. Co., Jackson 2	250	3075
Phillips Pet. Co., Palmer 5	¶7 & 2400	2859
Palmer 8	2400	2886
Prairie O. & G. Co., W. Harrah 3	65	3250
The Texas Co., J. M. Patton 3	350	2983
J. M. Patton 4	50	2980
HUTCHINSON COUNTY—		
Gulf & Panhandle Ref. Co., Dial 46	12	2930
HALL COUNTY—		
Rio Bravo Oil Co., H. Hughes 1	*	5232
WHEELER COUNTY—		
E. R. Fain et al, Binkley-Caine 2	*	3333
Johnson & Wischkamper, West 1	*	1971
Northern Texas Utilities Co., P. Ladd 1,	¶4	1975

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Amerada Pet. Corp., Edmondson 2	*	1361
M. T. Anderson et al, Leatherweed 6	*	1180
Cox & Michael, Smith 1	*	1350
Green Prod. Co., Davis 5	310	1302
Herring et al, Kessler 1	520	1340
R. F. Honea et al, Churchill 1	*	490
Moore et al, Swindle 1	*	1502
Paramount Oil Co., Shields 1	*	1237
E. L. Smith Oil Co., George 3	500	1304
The Texas Co., Kessler 2	240	1297
Kessler 3	260	1292
Venmex Oil Co., Hickman 6-D	100	1299
Hickman 7-D	†	430
CALLAHAN COUNTY—		
Drew Beams et al, Jackson 6-B	*	1096
COLEMAN COUNTY—		
Eastland Oil Co. et al, Morris 9-A	200	2002
Elrod-Bebout et al, Haas 4	80	1497
McDonald & Campbell, Casey 1	*	1697
Mid-West Explo. Co., Blackwell 1	*	2000
J. W. Pool et al, Riddle 1	*	985
Taylor-Link Oil Co., McClure 2	60	660
C. S. Wilmot et al, Vaughan 2	60	970
EASTLAND COUNTY—		
Dale & Simms, Lyerla 1	*	1250
O. R. Rochelle et al, Clark 1	35	1329
PALO PINTO COUNTY—		
Richardson & Comanche O. & G. Co., Holt 1	*	4400
SHACKELFORD COUNTY—		
Cranfill-Reynolds Co., Moberly 4-B	15	1050
Dull-Earls Texas Co., Matthews 8	70	1157
Manning et al, Newell 5	5	929
Tannehill et al, Matthews 5	*	1165
Texas-Consolidated Oil Co., Reynolds 2	20	943
STEPHENS COUNTY—		
Lone Star Gas Co., Calloway 1	¶2	2159

WEST TEXAS

CRANE COUNTY—		
Gulf Prod. Co., Waddell 7	8	3610
HOWARD COUNTY—		
American-Maracaibo Co., Settles 2-C	*	4393
Bristow & Merrick, Roberts 9	10	1405
Humble O. & R. Co., Clay 4	130	1851
Moody Corp., Roberts 16-B	50	1417
Roberts 22-B	60	1399
JONES COUNTY—		
Cosden & Herbert Oil Co., Bickley 1	30	2512
Cosden Oil Co. & Texas Co., Camp 4	100	2499
Humble O. & R. Co., Bickley 2	65	2468
Roeser-Pendleton, Inc., Grayson 5-A	*	2745
T. P. Coal & Oil Co., Smith 1	*	2995
MITCHELL COUNTY—		
The California Co., J. J. Handley 1	*	3284
PECOS COUNTY—		
Gulf Prod. Co., Smith 19-A	2565	1615
Mid-Kansas-Transcontinental, Smith 6	25	1387
Yates 10-H	¶50,000	1680
Phillips Pet. Co., I. M. Ramsey 3	3600	1737
WARD COUNTY—		
Gulf Prod. Co., Wristen 2	200	2482
WINKLER COUNTY—		
Humble O. & R. Co., Hendrick 13-C Lse. 2	8500	2890
Hendrick 14-C, Lse. 2	5700	2817
Southern Crude & Westbrook, Hendrick 4-C-X-T-88	550	2794

NEW MEXICO

LEE COUNTY—		
Continental Oil Co., et al, Wells 1	75	3560

Wildcat Failure

Casper, Wyoming.—Prairie Oil & Gas Company's wildcat test of Clark Dome, Baird 1, in Natrona County, southwest of Casper, has proved a failure, having developed water in the Tensleep sand, as well as in all other strata with the exception of about five feet in the Frontier which carried some million feet of rotten gas. Total depth was 3350 feet. The test is to be abandoned.

Questionnaire Developes Data on Crooked Hole Problem

(*Continued from page 28*)

crooked holes and is dependent rather upon the clearance necessary for proper circulation between the drill pipe and the string of casing.

Q. 5. Drilling out of cement below bottom of casing string.

(a) Does the bit follow the path of least resistance beside the cement plug rather than through it?

The consensus of opinion seems to be that with proper care in drilling out the plug, that is by holding up weight on the bit, the tendency is to drill through the plug rather than alongside of it, if the casing when cemented was centered in the well bore. However, in many cases, we have no assurance that the casing has been centered in the well bore and if it were not centered then the tendency of the bit would naturally be to drill down along the side of the plug instead of through it. This condition can be partly rectified by using a guide in drilling out the cement plug.

(b) What do surveys show below shoes on most jobs?

It was stated that many surveys show a considerable deviation below the casing seat but this is very probably due to the rathole not being centered in the well bore before the casing string was set.

Q. 6. Does the change of the type of bit or from bit to core barrel cause the hole to go crooked?

The answers to this question were unanimous in that if the change in bit or change from bit to core barrel was of the same size there would be no additional hazard toward causing a crooked hole; however, if the hole were reduced without the use of a guide or pilot bit, there is a very pronounced tendency toward crooking the hole at this point.

Q. 7. Method of changing the direction of holes by mechanical means.

(a) By the use of cement.

The consensus of opinion here was that if the cement was brought to a point in the hole where the formation was softer than cement, then the bit would tend to follow the path of least resistance and the straightening job would be successful.

(b) By use of a whipstock.

The answers to this question were very concise and frank. The use of a whipstock to straighten up a hole is only a last resort as the hazards in its use greatly outweigh the probability of straightening up the hole.

Q. 8. Does the direction of rotation have any bearing on the direction of deviation?

The majority of the answers to this question were to the effect that the direction of rotation had little or no bearing on the direction of deviation.

Faulting Around Salt Domes

(*Continued from page 30*)

tured in the accompanying illustration were flexed upward, incidentally forming a condition for the accumulation of oil and gas. Having a tendency to migrate, and to migrate upward, the gas, oil and water rose in the sands to those high points around the salt plug, becoming trapped there. Gas being the lighter of the mixture of gas, oil and water, took the highest position possible in the sands. Oil crowded in just below the gas, and water, being heavier than either of the petroleum constituents, but pushing upward also, stood just beneath the oil. Thus in drilling practice, wells drilled to the top of the sands encounter gas, those lower down get oil and still farther down the water is encountered. That normal uplift of the strata, including the oil sands, around the upthrust salt plug is shown on the right side of the section of the salt mass illustrated herewith.

On the left side, however, the above discussed faulting has occurred. The theory back of the illustration is that while the salt plug was pushing upward, it broke through the Oligocene formations, but that as it did so, a portion of the Oligocene broke loose from the general body of the Oligocene, in a sense sticking to the rising salt mass; while the salt pushed through rather than lifted the rest of the Oligocene body.

One factor which must be taken into consideration in concluding that a fault has been formed around a salt dome is the straightness of the wells whose logs are used in drawing the inference. In other words, if two offset wells hit the same stratum at widely different depths, there is probably a fault which has caused the difference in depth—provided the bottoms of the wells, like their locations at the surface, are close together. If the holes are crooked, the bottoms of the wells may be relatively long distances apart; in which case the difference between the depths at which the particular stratum is encountered may be accounted for by the regular dip of the formations instead of by assuming that there is faulting. This possibility, of course, may be definitely checked if desired through acid bottle or other surveys of the wells involved.

At any rate, faulting is generally accepted as existing around salt domes, basing the assumption on many well logs and sets of logs in many fields, and since it does exist, it is interesting to study the interpretation of its cause as presented in the accompanying illustration.

XUM

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Sept. 7	Previous Week	Total this Month	Total this Year	This Week 1928	This Month 1928	1928 Year Total
Arkansas	3	7	3	112	...	5	331
California	17	28	17	921	124	124	1,207
Louisiana	13	18	13	588	8	13	680
Kansas	24	25	24	782	17	13	1,032
Oklahoma	67	51	67	2,395	79	134	3,744
Texas	137	199	137	6,081	141	314	8,297
Total	261	328	261	10,879	369	633	15,291

KANSAS

BARTON COUNTY — Allison and Fitzwilliams, Brodis 1, ne, 19-16-12w.

BUTLER COUNTY—G. W. Sanford, Covert 1, ne sw, 10-28-5e. Lewis Production, Lill 1, se, 18-27-7e.

COWLEY COUNTY—Trees, Adams 1, c nw ne, 12-34-6e.

FORD COUNTY—Swain et al, 1, c nw, 21-24-24w.

GREENWOOD COUNTY—Eureka, Edwards 1, nw sw, 35-23-11e. Kite et al, Peeples 1, ne, 33-23-11e. Carey and Simmons, Lufebure 1, nw ne ne, 14-23-11e. T. K. Simmons, Eteele 1, se ne, 32-22-12e. Empire, Norton "C" 1, ne sw ne 22-22-12e. George O'Neil, Blakely 1, sw ne sw, 9-22-11e.

HARVEY COUNTY—Walton, Neiman 1, c se sw, 13-24-2e.

KINGMAN COUNTY—D. P. Fleeger, Ashcraft 1, cel w½ e½ 16-28-7w.

RICE COUNTY—G. E. Burgher, Fair 1, se ne ne, 14-21-10w.

RUSSELL COUNTY—Keys Pet. Co., Mermis 11, ne sw ne, 32-13-15w. Mid-West Exploration Co., Benso 31, sw, 4-14-15w. Mid-West Exploration Co., Brungardt 1, sw nw nw, 31-12-15.

SEDGWICK COUNTY—E. F. Jones et al, Missouri Pacific 1, sw ne se sw, 15-26-2e. Deal and Shell, Bogue 2, sw se sw sw, 15-26-2e. Deal and Shell, Bogue 1, ne se sw sw, 15-26-2e. Deal and Shell, Wilson 1, nw sw se sw, 15-26-2e.

STEVENS COUNTY—Trees, Grundy "A" 1, c sw, 3-35-38w. McKenna et al, Capenter 1, nw nw 29-33-36w.

WOODSON COUNTY — Twedell et al, Kemner 1, sw se, 15-24-15e.

OKLAHOMA

CARTER COUNTY—Magnolia, Powers 2, nw ne nw, 4-2s-3w.

COTTON COUNTY — Baldwin and Sultan, Thone 4, se sw se se, 35-1s-10w. Wirt Franklin, Chambers 2, se ne sw se, 35-1s-10w. Scott and Arrington, Cogswell 1, se nw se, 26-1s-10w. Shasta, Slogan 3, nw ne ne, 2-2s-10w. Shasta, Slogan 2, nw ne ne, 2-2s-10w.

CLEVELAND COUNTY—Brownfield et al, Corbett 1, se nw, 20-6n-1e.

CREEK COUNTY—Gled Oil, Monday 1, nw ne sw, 25-19-8e. Sooner, Calvin 1, nw se se, 31-19-11e. Independent et al, Davis 1, se nw se, 20-18-8e. J. H. Wright estate, Tahkaney 25, (TWIN) nw, ne ne nw, 24-17-10e. Carter, Durant 7, (OWDD) se sw ne, 18-16-9e.

GRADY COUNTY—Meridian Gas, Kinnaird 1, cnl ne ne, 34-4n-8w.

HUGHES COUNTY—McCulloch, Scott 1, nw ne, 23-6-8e.

JEFFERSON COUNTY—T. J. Barnes, Stanfield 1, c nw se, 33-7s-6w.

KAY COUNTY—Parrish et al, Whitesides 1, ne sw sw, 25-28-1w. Decamp et al, Sharp 1, c se ne, 25-28-1w.

LeFLORE COUNTY—LeFlore County Gas & Elec. Co., Jackson 2, ne sw sw se, 28-7n-26e.

MUSKOGEE COUNTY — Robinson Bros., Lewis 4, nw sw nw ne, 8-13-16e. Bement, Bruner 1, cnl ne se, 15-13-16e. Seminole, Murrell 1, nw se se, 16-15-18e.

OKFUSKEE COUNTY — Mid-Continent, Dindy "B" 3, sw ne, 31-11-11e. Sunray, Wilson "A" 2, ne se nw, 31-11-11e. Regal, Bigpond 9, cnl se ne, 11-10-11e.

OKLAHOMA COUNTY — Sinclair et al, Stamper 5, ne se nw, 30-11-2w. Shell, Petty 4, sw nw ne, 30-11-2w. Indian Territory Illuminating, Oklahoma City 1, (OWDD) se se, 24-11-3w.

OKMULGEE COUNTY—Foreman and Wise, Rowe 6, nw ne ne, 10-15-14e. Kirkland and Son, Prince 4, cel nw nw, 20-15-13e. Getzandamer et al, Soleman 6, csl nw sw, 29-15-11e. Whitefield et al, Grayson 4, (OWDD) ne se nw sw, 3-15-11e. L. Levine et al, Holcomb 1, (OWDD) sw nw se, 24-14-12e. Penrod and Thompson, Reynolds 9, (OWDD) sw se nw, 15-13-14e. F. Sheedy et al, Meyers 15, nw se sw, 23-13-14e.

OSAGE COUNTY—Osage Gas Producers et al, 395, csl ne sw, 29-28-11e.

PAWNEE COUNTY—Hay et al, Copeland 3, nw sw, 26-20-9e. McMann et al, Johnson 2, ne se, 27-20-9e. Johnson O. & R. Co., Byles 1, se ne, 27-20-9e. Transcontinental, Lincoln 1, nw se, 4-18-5e.

PONTOTOC COUNTY—Belchie and Laskey, Williamson 1, nw ne sw, 32-5-7e. Transcontinental, Bolen 3, se nw nw, 19-5-5e. Homaokla, Ritchie 5, se, 1-4-7e. Homaokla, Ritchie 6, nw se se, 1-4-7e.

POTTAWATOMIE COUNTY — Magnolia, Jordan 1, se nw se, 12-7-4e. Independent and Darby, Davis 2, se sw ne, 15-7-4e. Houston, Wyatt 5, se ne sw, 17-7-4e. Houston, Wyatt 6, sw ne sw, 17-7-4e. T. B. Slick, Alexander 3, nw se, 19-6-4e.

SEMINOLE COUNTY—Burke-Greis Corp., Nevins 2, sw se sw, 32-10-6e. Minnehoma, Nice 2, sw se nw, 17-9-6e. Gypsy and Devonian, Payne 7, ne se se, 18-9-6e. Gypsy and Devonian, Payne 8, sw se se, 18-9-6e. Sinclair, Jefferson 1, ne nw ne, 19-9-6e. Gypsy and Devonian, Payne 9, se sw se, 18-9-6e. Wrightsman, Green 2, ne, 19-9-6e. Magnolia, Brane 1, ne 8-7-7e. Reiter-Foster, Bunyard 4a, ne nw sw, 14-7-6e. Mid-Continent, Harjo 4, se ne, 14-5-7e. Mid-Continent, Smith 11, sw nw se, 5-7-7e.

STEPHENS COUNTY—Meridian Gas Co., Collins 1, c ne ne 12-1n-9w. Mid-Tex, Massey T, ne nw, 36-1s-6w. Lesh and McCall, Wilson 1, se sw sw ne, 17-2s-7w. Pace et al, Johnson 1, se nw, 16-2s-7w.

TILLMAN COUNTY — Dean and Adkinson, Kent 1, nw, 6-5s-14w. Chenault and Staley, Crane 1, ne se, 25-4s-14w.

TULSA COUNTY—Superior, Johnson 1, se ne nw, 18-19-12e.

LOUISIANA

CADDO PARISH—Double I Oil Co., Grayville, Ill., T. S. Spell 11, 15-21n-15w, 400 ft n and 700 ft e or sw.

CAMERON PARISH—John D. Dickson, Lake Charles, John B. Duhon 1, 26-12s-10w, 410 ft s and 30 ft e of nw c of sec. Sunshine Oil Corp., Lake Charles, Porter Ellender 2, 27-12s-10w, 312 ft e and 50 ft s of nw c; Porter Ellender 2, 27-12s-10w, 282 ft s and 50 ft e of nw c e½ nw.

JEFFERSON DAVIS PARISH—J. E. Carradine, Welsh, Walshe 4, 21-9s-5w, 500 ft n and 600 ft w of se cor. of sec.

LAFOURACHE PARISH—Texas-Gulf Sulphur Co., Thibodaux, Mrs. W. H. Stark, et al 23, 72-15s-15e, 372 ft s and 2000 ft w of ne c of sec.

LA SALLE PARISH—Air Lift Oil Co., El Dorado, Ark., Fee 1, 26-10n-1e, 75 ft n and 75 ft w of se c se ne. T. G. Randle, Tr., Urania, Kinney-Hardtner-Randle 1, (Amended Permit), 7-10n 2e, 450 ft s and 200 ft w of ne c sw sw.

OUACHITA PARISH — Amalgamated Co., Monroe, Cole 3, 42-19n-4e, 1616.9 ft e and 721 ft s of nw c sec.

OUACHITA PARISH—Austin-Jordon Oil & Gas Co., Monroe, Chauvin 1, 62-18n-3e, 110 ft e and 329 ft s of northerly c of sec. Imperial O. & G. Products Co., Monroe, L. Stubbs 10, 12-19n-3e, 2403 ft w and 395 ft s of northerly c of sec. Stubbs, Trustee, Monroe, Linton Stubbs 1, 19-19n-4e, 203 ft e and 121 ft s of nw c of sec.

UNION PARISH — Industrial Gas Co., Shreveport, Jenny A-1, 6-20n-4e, 2629 ft n and 6567 ft e of sw cor. of sec.

WEBSTER PARISH—Pat Hudson, Shreveport, L. S. Gardner 1, 1-22n-11w, 150 ft e and 200 ft s of nw c sw ne.

CALIFORNIA

FRUITVALE—Western Gulf Oil Co., Switzer 2, 27-29-27.

HUNTINGTON BEACH—Standard Oil Co., Huntington Beach 63, 2-6-11.

LONG BEACH—Bush-Voorhis Oil Co., No. 11-A, 19-4-12. K. S. Deeds Oil Co., No. 5, 29-4-12.

Midway—The Texas Co., No. B-4, 21-31-22.

MT. POSO—Union Oil Co., Tribe 4, 28-27-28.

POTRERO—C. S. Blinn, No. 1, 28-2-14.

RINCON—General Pet. Corp., Tomson 5, 8-3-24.

SANTA FE SPRINGS—Shell Oil Co., Slusher B-3-A, 6-3-11; G. H. N. 28, 31-2-11; G. H. N. 29, 31-2-11.

SANTA BARBARA COUNTY—Western Gulf Oil Co., Hollister 2, (—)-5-33. California Properties, Inc., No. 1, 3-4-28.

SEAL BEACH—Fred R. Hudson, No. 1, 3-5-12.

SUNSET—North American Oil Cons., Kerckhoff 1, 8-11,23.

STANISLAUS COUNTY—C. E. Barnhart Oil Trust, No. 1, 3-2-10.

VENTURA—Shell Dil Co., Taylor 51, 28-3-23.

ARKANSAS

MILLER COUNTY—Vincent Lenz, Pearson 1, 300 ft ft e nw cor 13-15-26.

UNION COUNTY—Joe Marr, Goodwin 1, 300 ft n 250 ft e sw cor 3-16-16. Joe Modisett Drg. Co., Union Saw Mill 1, 200 ft w 200 ft n se cor sw sw 1-18-14.

TEXAS

AUSTIN COUNTY—Humble, Houston, Bellville School 4, W. C. White sur, 675 ft from se and 150 ft from sw line. R. R. Urban, 5, W. C. White sur, 455 ft from nw and 150 ft from sw line. Grawunder C, 4, W. C. White sur, 150 ft from ne and se lines. Grawunder C, 3, W. C. White sur, 150 ft from nw and ne lines. A. T. McCasland, 1, W. C. White sur, 3000 ft from nw and 800 ft from sw line.

BROWN COUNTY — Ven-Mex Oil Co., Wichita Falls, R. Hickman D, 58, 6, T. Benson sur, 245 ft n of No. 5. E. L. Smith Oil Co., Mexia, L. A. George, 5, S 42, HT&B sur, 300 ft n of No. 3 se¼; 6, same sur, 300 ft n of No. 5; 7, same sur, 300 ft n of No. 6. P. H. Davies et al, Coleman, C. P. Dunn, 50, 1, S 151, P. Curlong sur, 150 ft from n and 1037 ft from s line. Greene Prod. Co., Inc., Fort Worth, M. A. Davis, 40, 7, S 4, SA&MG sur, 150 ft from e and 450 ft from n line. Humble, Wichita Falls, J. C. Kilgore, 75, B16, J. Delgado sur, 1244 ft from n and 200 ft from e line. P. K. French, Fort Worth, D. Belvin, 43, 2, R. C. Chaddick sur, 450 ft from w and 150 ft from n

Field Tests
of the "D-H" Wire Line Lubricator
Show

View of the "D-H" Wire Line Lubricator, Open.

COTTER DRILLING COMPANY
McCAMEY, TEXAS
Fort Stockton, Texas, Sept. 5, 1929.

To Users of Wire Line:—

Users of wire line throughout the oil fields have found that the corrosive effect of all kinds of water and sulphur oil are causing more loss of service to their lines than the actual wear of drilling. Sulphur water is a very prevalent condition in the West Texas areas and calls for drastic measures for protection of wire rope and something more than a mere lubricant is needed.

Drane-Humphrey Company's Insulin No. 269 combines the qualities of both a lubricant and a corrosive resisting paint, making it a most satisfactory coating for wire lines, which acting as a lubricant eliminates the wear on lines as well as the line cutting of casings, however this must be quickly and uniformly applied to be of real service to the operator. This lubricant can be most conveniently and effectively applied with Drane-Humphrey Company's "Sawtelle Wire Line Lubricator," which can be used without loss of time, while pulling on new lines or running in or pulling tools or bailer from hole. It may also be used in lubricating casing lines on rotary or cable tool rigs.

By actual test in using a line in a hole full of sulphur water, first: a new line was run without lubrication, then another line, of the same make, was put on and run under the same conditions, but kept thoroughly lubricated with Insulin No. 269, and gave more than three times the service of the first line, not including the reduction of fishing job hazards to the minimum and saving of wear on casing.

On two wells, just completed by us for the Warner-Quinlan Oil Co., in the Crane Field, where sulphur oil is causing complete destruction of lines while drilling in, we put on two new lines, of the same make, in offset locations; one of these lines was kept thoroughly lubricated and, after completion of well, is in good condition *and will drill another well*, while the non-*lubricated line, run under identical conditions, is of no further use.*

We believe the use of this device and Insulin No. 269 in lubricating lines for storage, alone, is well worth the cost to operators.

Yours very truly,
COTTER DRILLING CO.,
(Signed) G. G. Sawtelle.

GGS/L

What USERS say means more to you . . . . . than anything we could possibly say.

See Our Exhibit at the Tulsa Show.

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SAN ANGELO, TEXAS TELEPHONE 5472

402 Petroleum Bldg. FORT WORTH, TEXAS Phone 2-9713

XUM

line. Paramount Oil Royalties, Inc., Brownwood, J. A. Pike, 103, 1, B 35, B. Smith sur, 200 ft from s and e lines of Blk 35.

BASTROP COUNTY—Humble, Houston, J. H. Hendrix, 91, 1, J. G. Lentz sur, 150 ft from n and e lines.

BRAZORIA COUNTY—Gulf, Houston, T. Hogg, 20, 3, M. Varner sur, 190 ft ne of No. 2.

BELL COUNTY—J. H. Riley, Dallas, J. W. Mosley, 10, 1, M. Moreno sur, 2581 ft from s and 367 ft from w line.

CALLAHAN COUNTY — Ewmo Oil Corp., Abilene, S. Smith, 1, S 121, GH&H sur, 495 ft from n and 200 ft from e line n½ of nw ¼. Hart Bros., Baird, J. S. Hart, 40, 3, S 7, D&D Asy. sur, 732 ft from w and 261 ft from s line. Meredith & Benton, Cisco, A. Hickman, 80, 2, S 2, I&GN sur, 150 ft from n and w lines of sec. Young Bros. & Alexander, Inc., Fort Worth, A. Hickman, 168, 17A, S 148, BBB&C sur, 300 ft nw of No. 16A. Ray Testerman, Moran, M. Alvey, 80, 2, S 2272, TE&L sur, 300 ft w of No. 1 n½ of e½. Woodley Pet. Corp., Shreveport, La., E. L. Finley, 737, 4D, S 74, Bayland Asy. sur, center of ne¼ of nw¼. Texas Co., Wichita Falls, P. G. Hatchett, 40, B6, S 23, D&D Asy. sur, 482 ft w and 670 ft from s line ne¼ ne¼. Benton Hartley, Cisco, W. Hinds, 400, 1, S 96, BBB&C sur, 150 ft from s and ne lines of nw¼.

CHAMBERS COUNTY — Moody Corp., Tulsa, Okla., Cellier, 2½, 1, H. Griffith sur, 47 ft from n and 25 ft from w line. Humphreys Corp., Housotn, Kirby Pet., 22, H5, H. Griffith sur, 163 ft nw of No. 4; H6, same sur, 150 ft sw of No. 4; H7, same sur, 150 ft sw of H5. Kirby Pet., 15, C2, H. Griffith sur, 150 ft e of center of w line.

CALDWELL COUNTY—Humble, Houston, M. Briscoe A, 13, 5, J. Hinds sur, 206 ft from n and 485 ft from w line.

CLAY COUNTY — Kimmell & Woofter, Wichita Falls, Amer. Ref. Prop., 30, 1, B 59, Bacon sur, 150 ft from w and 500 ft from s line Blk 59. Lone Star Gas Co., Petrolia, H. Wiist, 80, 22, S 17, P.C.S.L. sur, 488 ft from s and 150 ft from n line Blk 17.

COOKE COUNTY—Danciger Oil & Ref. Co., Fort Worth, J. F. Huggins, 76, 8, B 9, S. P. Ry sur, 450 ft from n and 1350 ft from e line; 9, same sur, 300 ft w of No. 5; 10, same sur, 300 ft w of No. 9. Shell Pet. Co., Wichita Falls, Fields-Bower, 101, 5, C. Staley sur, 1050 ft from n and 150 ft from w line.

COLEMAN COUNTY — Charter Oil Co., Brownwood, C. A. Crumps, 39, 5, S 13, B 665, J. Scott sur, 600 ft from e and 650 ft from s line. Anzac Oil Corp., Coleman, G. W. Jennings, 130, 1, S 751, 10, M. Martinez sur, 1200 ft from s and 750 ft from e line.

DUVAL COUNTY—National Oil Co., San Antonio, Ball, 214, 2, B 3, A. Poquita sur, 1215 ft from e and 200 ft from s line.

EASTLAND COUNTY—Jno. M. Gholson et al, Ranger, M. J. Collins, 80, 1, S 18, B 1, H&TC sur. 330 ft from n and e lines of e½ se¼. Eastland Oil Co. et al, Fort Worth, W. T. Hittson, 80, 1, S 73, B 4, H&TC sur, 365 ft from s and e lines. Hoffman & Page et al, Eastland, J. V. Harbin, 91, 5-2, S 27, B 2, H&TC sur, 22 ft no of No. 5. Jack Dale, Wichita Falls, Lyerla, 160, 1, S 25, H&TC sur.

FORT BEND COUNTY—Humble, Houston, M. C. Camp, 294, 8, Wm. Stafford sur, 1865 ft from s and 250 ft from e line. P. G. Benedum, Houston, W. C. Moore, 100, 1, B 30, B. Wickson sur, 50 ft from n and 360 ft from e line.

FALLS COUNTY—O. W. Killam, Laredo, S. St. Claire, 500, 1, J. M. Sanchez sur, 900 ft from n and 2770 ft from e line.

GUADALUPE COUNTY — Sun Oil Co., Beaumont, M. L. Manford, 306, 1, J. Hodges sur, 150 ft e of center of w line. H. H. Weinert, Seguin, A. E. Dowdy, ½, 1, J. C. Darst sur, 100 ft from s and 36 ft from e line; 2, same sur, 100 ft from n and 36 ft from e line. J. O. Dore, San Antonio, W. A. Appling, 54, 1, H. Cottle sur, 150 ft from s and w lines.

GRAY COUNTY—Magnolia, Dallas, J. B. Bowers, 160, 7, S 63, B B2, H&GN sur, 660 ft s of No. 5 nw¼; 8, same sur, 660 ft s of No. 7. Sun Oil Co., Dallas, Patton, 80, 4, S 61, B B2, H&GN sur, 330 ft from n and w lines of sec. Danciger O. & R. Co., Fort Worth, Humphreys, 39, 1, S 5, B 1, ACH&B sur, 286 ft from e and 330 ft from s line se¼ nw¼. G. N. Powell, 160, 7, S 28, B B2, H&GN sur, 1650 ft from e and 330 ft from n line ne¼; 6, same sur, 330 ft from s and 990 ft from e line ne¼. J. S. Morse, 80, 5, S 1, B 26, H&GN sur, 330 ft from s and w lines of nw¼. McMan O. & G. Co., Tulsa, Okla., W. Jackson, 97, 4, S 90, B B2, H&GN sur, 640 ft n of No. 2; 3, same sur, 640 ft n of No. 1.

HOWARD COUNTY—Continental Oil Co., Wichita Falls, G. O. Chalk, 160, C5, S 140, B 29, W&NW sur, 1120 ft from n and 2440 ft from e line sec. W. R. Settles, 400, A9, S 135, B 29, W&NW sur, 200 ft from n and 660 ft from e line. Owen-Sloan Oil Co., Forsan, G. Roberts, 160, 1, S 136, B 29, W&NW sur, 330 ft from s and w lines of se¼. F-H-E Oil Co., Sherman, D. Roberts, 160, B14, S 137, B 29, W&NW sur, 50 ft s of No. B11; B13, same sur, 50 ft w of No. B9. Witherspoon & Glasscock, Big Spring, Kloh, 50, 3, S 3, B 32, T&P sur, 723 ft from e and 890 ft from s line of sec.

HARRISON COUNTY—Nick Barbare, Waskom, Abney, 80, 1, J. J. Blair sur, 200 ft from n and e lines.

HARRIS COUNTY—Jas. W. Rich, Houston, H. K. Johnson, 15, 1, B 19, L 35, Highland sur, 166 ft from e and 736 ft from s line of B 35. Texas Co., Houston, Landslide, 808, 269, R. Dunman sur, 200 ft s of No. 268. J. M. West, Houston, V. M. Duke, 15, 4, Wm. Scott sur, ne corner.

HARDIN COUNTY—Rio Bravo Oil Co., Houston, Fee, 158, C79A, J. F. Cotton sur, 4 ft s of No. C79.

IRION COUNTY—C. G. Cromwell, San Angelo, J. M. Nutt, 100, 1, B 6, G.C.S.L. sur, 150 ft from n and w lines ne¼ nw¼.

JIM HOGG COUNTY—W. R. Shankle, Laredo, R. Holbein, 10, 2, B 11, No. 3, Las Animas sur, 150 ft from n and 450 ft from w line.

LIBERTY COUNTY—Gulf, Houston, R. I. Weiser, 59, 1, G. Stengler sur, 416 ft from n and w lines. Sun Oil Co., Beaumont, A. Mitchell, 100, 49, M. G. White sur, 192 ft e of No. 48. Empire G. & F. Co., Daisetta, O'Brien, 98, 6, M. G. White sur, 1234 ft from w and 68 ft from s line.

LAMPASAS COUNTY—Acuff Davidson Co., Lampasas, B. Bridges, 374, 1, J. Nichols sur, 210 ft from e and 360 ft from n line.

LOVING COUNTY—Humble, Wichita Falls, A. Kloh, C, 640, 1, S 35, B 55, T&P sur, center of sec. Lockhart & Co., Pecos, Hubbard, 240, 4, S 83, B 33, H&TC sur, 660 ft from ne and 330 ft from nw line of sec.

MEDINA COUNTY—A. W. Skoglun et al, Fort Worth, E. Satthoff, 200, 1, B 19, A. Smelser sur, 200 ft w of center of e line.

MONTAGUE COUNTY—Bridwell Oil Co., Wichita Falls, E. E. Edmondson, 49, 7, T. R. Edmondson sur, 300 ft ne of No. 3.

NAVARRO COUNTY—Lowry, Joes et al, Waco, Moore, 3, Blk 5, W. T. Byers sur, on center of e line. G. C. Kent, Corsicana, C. W. Lockhart, 85, 5, R.C.S.L. sur, 310 ft se of No.

PANOLA COUNTY—Kirby Rowe Drilling Co., Shreveport, La., Adams, 5, 6, B. C. Jordan sur; 7, same sur. National Gas Prod Co., Sherevport, La., A. Mays, 42, 2, J. Thorpe sur, east central part of lease.

PECOS COUNTY—McMan O. & G. Co., Tulsa, Okla., Richardson, 200, 5, S 107, B 194, CT&MC sur, 200 ft from e and 330 ft from s line. M. A. Smith, C, 660, 8, S 25, B 194, GC&SF sur, 1667 ft from n and 330 ft from e line sec; 9, same sur, 1667 ft from s and 330 ft from e line. Sun Oil Co., Dallas, Carlson, 640, 1, S 34, B 18, Univ. Lands sur, 990 ft from n and e lines of sec. Mid-Kansas O. & G. Co., Tulsa, Okla., M. A. Smith, 640, 7, S 31, B 194, GC&SF sur, 2272 ft from w and 330 ft from s line of sec. J. L. Kennedy, Cisco, T. P. Kennedy, 160, 1, S 78, B 3, T&P sur, center of sec.

REFUGIO COUNTY—Independent O. & G. Co., Midland, J. J. O'Brien, 32, 1, B 14, Refugio sur, 340 ft from w and 251 ft from n line B 14.

SHACKELFORD COUNTY—L. R. Barton & Co., Fort Worth, R. E. Collingsworth, 40, 1, No. 12, Univ. Lands sur, ne cir of sw¼. Homer Slicker, Cisco, J. B. Matthews, 80, 5, S 58, E.T. Ry sur, 1100 ft from e and 450 ft from s line sw¼ ne¼. W. M. Cosley, Breckenridge, Griffith, 120, 2, S 37, L.A.L. sur, 660 ft from n and e lines of sw¼. Callahan & Marine Oil Co., Fort Worth, C. H. King, 40, 1, S 21, E.T. Ry sur, 450 ft from w and 150 ft from s line se¼ of ne¼. Geo. Callihan, Albany, County, 8, 2, S 17, B 11, T&P sur, 1025 ft from s and 150 ft from w line; 1, same sur, 725 ft from s and 150 ft from w line. Less Combest et al, Mineral wells, J. A. Titus, 100, 1, N. Williams sur, 150 ft from n and w lines. A. J. Hughes, Albany, L. G. Davis, 80, 1, s 44, B 13, T&P sur, center of se¼ of nw¼. Hughes, Reynolds & Prettyman, Albany, L. H. Hill, 80, 3, S 2, L.A.L. sur, 150 ft from s and w lines of se¼. Putnam Oil Co., Cisco, J. T. Cockrell, 40, 18, S 15, L.A.L. sur, north central part of ne¼ of ne¼.

SAN PATRICIO COUNTY—La Feria O. & G. Dev. Co., La Feria, C. C. Smith, 1600, 1, J. C. White sur, 690 ft from n and 350 ft from e line.

STEPHENS COUNTY—Donley, Chastain & Vacuum Oil Co., Ranger, J. R. Coody, 320, 1, S 48, B 5, T&P sur, 750 ft from n and 2640 ft from e line of n½. Lone Star Gas Co., Petrolia, I. A. Calloway, 160, 2, S 2, Blk C, S.P. Ry sur, 1147 ft from w and 300 ft from s line sw¼.

TAYLOR COUNTY—Condor Pet. Co., Abilene, T. Brookerson, 1, No. 112, A. M. Boyd sur, 200 ft from s and 765 ft from e line sec.

THROCKMORTON COUNTY — Magnolia, Dallas, I. H. Gathright, 160, 1, 949, TE&L sur, 150 ft from n and e lines.

WICHITA COUNTY—A. R. Lundell, Fort Worth, Vernon Co., 40, 1, No. 1, SA&MG sur, 450 ft from e and 150 ft from s line. Sheldon & Ven-Mex Oil Co., Wichita Falls, C. H. Whittenbach, 80, 2, No. 303, Wag. Col. sur, 300 ft e of No. 1 n½ of Blk 303. Comac Drilling Co., Wichita Falls, M. P. Bishop, 45, 10, L. Netherly sur, 200 ft sw of No. 8. P. P. Langford, Jr., Wichita Falls, J. D. Greer, 30, 1, S 33, H&GN sur, 450 ft from s and w lines. M. S. Thomas, 40, 1, S 31, HT&B sur, 150 ft from n and e lines. H. H. Temple et al, Wichita Falls, McCormick, 60, 1, B 7, P.P.C.S.L. sur, 250 ft from w and 877 ft from s line.

WILBARGER COUNTY — Grayback Dev. Co., Wichita Falls, W. T. Waggoner, 40, 1, s 37, B 4, H&TC sur, 450 ft from w and 150 ft from s line ne¼ ne¼. Empire G. & F. Co., Wichita Falls, W. T. Waggoner 160, 13A, S32, B 4, H&TC sur, 770 ft from s and 205 ft from e line ne¼ nw¼. W. T. Waggoner, 160, 22B, S 32, B 4, H&TC sur, 500 ft from e and 265 ft from n line sw¼. W. T. Waggoner, 160, 13C, S 25, B 4, H&TC sur, 205 ft from s and e line ne¼ of nw¼; 14C, same sur, 205 ft from n and e lines of sw¼ of nw¼. Phillips Pet. Corp., Bartlesville, Okla., G. M. Shanor, 80, 1, S 7, B 4, H&TC sur, 300 ft from s and w lines of sw¼ of nw¼.

WHEELER COUNTY—Lela O. & G. Co., Amarillo, Williams, 80, 7, S 20, B A8, H&GN sur, 1211 ft from n and 330 ft from w line sec. Gibson Oil Co., Amarillo, W. E. Bentley, 160, 9, S 42, B 24, H&GN sur, 330 ft e of center of w line se¼. Martin & Dubose, Shamrock, C. Pitsch, 40, 1, S 100, B 23, H&GN sur, center of se¼ of sw¼.

WASHINGTON COUNTY— Sun Oil Co., Dallas, J. W. Hunt, 60, 3, J. F. Perry sur, 300 ft sw of No. 2. B. R. Clay, 757, 1, J. F. Perry sur, 150 ft se of center of nw line. Fritz Fuchs, Taylor, E. Kieke, 34, 1, S. Hinch sur, 460 ft from n and 160 ft from w line.

WARD COUNTY — Cranfill & Reynolds, Cisco, F. T. Robeson, 40, 1, S 15, B 5, H&TC sur, 220 ft from s and w line n¼ of n¼.

ZAPATA COUNTY—Jno. Pappas, Laredo, J. V. Cuellar, 46, 2, Por. 34, Blk. 1, No. 2 sur, 150 ft from n and e line of Blk. 21. Loyal Oil Company, Hebbronville, J. G. Martinez, 8, C. Redondo sur, 300 ft nw of No. 2; 9, same sur, 300 ft ne of No. 8; 10, 300 ft ne of No. 9; 11, 300 ft ne of No. 6; 12, 300 ft ne of No. 5; 13, 300 ft nw of No. 12; 14, 300 ft n of No. 8; 15, 300 ft ne of No. 14; 16, 300 ft ne of No. 15.

Gas for Smelter

Durango, Colorado.—Completion of the city distributing system for natural gas in this city was announced last week by Hope Engineering Company. The main lines which bring gas from the Ute dome in New Mexico are also finished. Properties are to be under the management of the Hope Engineering Company. Durango is one of the largest silver mining areas, and the largest consumer of gas will be the American Smelting & Refining Company.

IDEAL

duplex Slush Pump

DESCRIPTIVE BULLETIN
No. 65
SENT ON REQUEST

THE
NATIONAL SUPPLY
COMPANIES

WILDCATS FROM ALL SECTIONS

KANSAS

STEPHENS COUNTY — Trees Oil Co.'s Candy 1, sw ne sw 3-33-38w, mvg in rotary.

SUMNER COUNTY — Davidson et al's Strickland 1, sw se, 12-35-1w, rig. White & Chenney's Unknown 1, nec 11-34-2w, ROG.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd 1310 ft.

BARBER COUNTY—Skelly's Temple Ranch 1, sw ne 13-34-15w, dr 2960 ft.

HARPER COUNTY—Slick's Miller 1, sec 13-34-8w, dr 4560 ft.

SUMNER COUNTY—Mid-Continent's Clark 1, sec 31-34-3w, dr 3540 ft. Morgan & Carey's Hawkins 1, sw se 9-34-1e, dr 2120 ft. Shell's Armstrong 1, nec 12-33-1e, dr 345 ft.

BARBER COUNTY — Robertson et al's Powell 1, c se se, 11-32-10w, dr 2100 ft.

HARPER COUNTY — Slick's Thompson 1, nwc 10-32-6w, set 8-in cas 4606 ft, stdg.

COWLEY COUNTY—J. B. Markey's Tatum 1, se sw 11-31-6e, sd 500 ft.

SUMNER COUNTY—Lario et al's Henderson 1, nw sw 21-30-1w, rig.

COWLEY COUNTY — Landon & Slick's Daniels 1, ne se 6-30-5e, dr 2880 ft.

BARBER COUNTY—Allison & Fitzwilliams' Morrise 1, c nw se se 9-30-12w, UR 6-in cas, 3980 ft.

SEDGWICK COUNTY — Johnson & Marshall's Roy 1, c ne se sw 23-29-1w, dr 3420 ft. Lario's Teachoff 1, ne sw 27-19-1w, sd 2800 ft.

BUTLER COUNTY—Empire's Parks 1, ne nw 36-29-4e, dr 2880 ft.

PRATT COUNTY—Jones & O'Haver's Lunt 1, c sw nw 15-28-14w, dr 3515 ft.

SEDGWICK COUNTY—Marland and Amerada's Sensroth 1, nwc 25-28-4w, dr 1500 ft. D. P. Fleeger's Ottaway 1, sw nw 16-28-2w, rig. Kyle et al's Pinney 1, c sw nw se 29-28-1w, spd and sd. Kellar & Lewis' Buckles 1, nw se 3-28-1w, fsg 975 ft. LaFont et al's Carlton Bros. 1, c se se sw 24-28-1e, sd 1685 ft.

KIOWA COUNTY — British American's Woodward 1, nec 35-27-17w, dr 4387 ft.

KINGMAN COUNTY—White Eagle et al's Lorenz 1, c ne sw se 25-27-5w, ROG.

SEDGWICK COUNTY — Hammond & Stout's Roeder 1, sw nw 23-27-2w, dr 4040 ft, HFW. C. E. Davis' Kinkead 1, nec 14-27-1e, dr 2360 ft. Lario's Calkins 1, sw se 7-27-2e, sd 2965 ft.

SEDGWICK COUNTY — E. W. Marland's Huggins 1, c se nw sw 30-27-2e, dr 2320 ft.

GREENWOOD COUNTY — F. Konkay et al's Rock 1, ne nw ne 7-27-12e, spd and sd.

RENO COUNTY—Wilson et al's McPheeters 1, c s½ nw 22-26-8w, rig. Austin Drlg. Co.'s Strickey 1, swc nw 12-26-5w, dr 3354 ft.

SEDGWICK COUNTY—Washabaugh's Harrison 1, c nw ne ne 3-26-2w, td 2824 ft, UR 8-in cas. Boyle et al's Sandusky 1, c nw ne se 34-26-1w, dr 1875 ft. Burnett's Davidson 1, c nw nw sw 27-26-1e, sd 2668 ft. Twist et al's Armstrong 1, ne nw 28-26-1e, spd and sd.

BUTLER COUNTY— Arkansas Fuel's Campbell 1, sec 9-28-3e, dr 1890 ft. Lario's Gordon 1, nwc 15-26-3e, dr 2105 ft. Sinclair's Johnson 1, nec 16-26-3e, 10-in cas 1279 ft.

SEDGWICK COUNTY — Deering-Marshall's Dick 1, c sw 4-25-2w, dr 3325 ft. Twist et al's Joseph 1, 4-25-1w, sd 1980 ft.

BUTLER COUNTY — White Eagle's Baeholder 1, swc 17-25-3e, dr 2790 ft. Travis et al's Harrison 1, sec 21-25-3e, dr 1750 ft. Millmack et al's Clearwater 1, swc 33-25-3e, dr 1000 ft.

GREENWOOD COUNTY—Ward-McGinnis' Anderson 1, ne nw sw 13-25-10e, UR 8-in cas 1400 ft.

RENO COUNTY—Skelly's Birkett 1, ne sw 30-24-7w, dr 3065 ft.

HARVEY COUNTY — Independent & Reserve's Moulds 1, c ne 7-24-1w, cas trble, td 2600 ft. Jolly & Ogg's Randall 1, nec 11-24-1w, sd 3444 ft. Payne et al's Ady 1, ne nw se 16-24-1e, dr 2600 ft. Walton's Neiman 1, c se sw 13-24-2e, ROG. Liggett's Regier 1, c se nw se 2-23-2w, dr 560 ft.

HARVEY COUNTY—Rosenthal et al's Ingalls 1, c nw sw 24-23-2w, Wilcox 3850-65 ft, sd. McCulloch's Prouty 1, nw sw 3-23-1w, sd 2020 ft. Jolly & Ogg's Hupp 1, se ne 22-23-1w, sd 3220 ft. Margaret Gay Oil Co.'s Crouse 1, nw ne nw 29-23-1w, sd 3012 ft.

HODGEMAN COUNTY— Phillips' Houseman 1, c nw ne 30-22-22w, dr 1600 ft.

RENO COUNTY—Witt et al's Olsen 1, se nw 14-22-6w, rig.

HARVEY COUNTY—Roth & Faurot's Bombrowsky 1, nwc 26-22-1e, td 3040 ft, UR 6-in cas.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel nw ne 31-21-16w, sd 1560 ft.

McPHERSON COUNTY — Helmerick & Payne's Klassin 1, se ne ne 14-11-1w, dr 2600 ft.

LYON COUNTY—Blair et al's Martindale 1, c nw ne ne 27-21-11e, 8-in cas, 1606 ft. Gordon & Stat's Murphy 1, nw ne 32-21-11e, 8-in cas 1625 ft.

RICE COUNTY — Higgins & Steinbuble's Shurr 1, ne sw 21-20-10w, pulled big pipe, 5-in cas hung 3 ft off bottom. Derby's Johnson 1, c nw ne se 24-20-6w, dr 1055 ft.

McPHERSON COUNTY—Mid-Kansas' Kuns 1, c se sw 11-20-5w, dr 800 ft. Millmack's Decker 1, nwc 11-20-5w, lcn. Slick-Pryor and Lockhart's Gratten 1, c ne nw nw 34-20-3w, dr 2250 ft. Lario's Diener 1, se sw 10-20-1w, dr 1295 ft.

MARION COUNTY—Empire's Reising 1, ne nw nw 34-20-2e, dr 680 ft.

RUSH COUNTY—Danciger O&R Co.'s Pinonka 1, c ne sw ne 17-19-17w, dr 3785 ft.

RICE COUNTY — Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Millmack's Cain 1, se 29-19-7w, spd and sd.

McPHERSON COUNTY — Perry et al's Wade 1, c se 20-19-4w, rig. McPherson's Chindbery 1, c nw nw 18-19-2w, dr 3365 ft, lime.

MARION COUNTY—Davis et al's Bartel 1, se ne 1-19-1e, dr 1775 ft.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se 11-18-27w, 8-in cas 2625 ft.

NESS COUNTY—E. W. Marland's Moses 1, ne se 7-18-25w, dr 3500 ft.

RUSH COUNTY—Sinclair's Seur 1, c se nw nw 8-18-17w, HFW, 3768 ft.

McPHERSON COUNTY—E. W. Marland's Swanson 1, c ne sw ne 36-18-4w, dr 2560 ft. McPherson County Gas Co.'s Rasmussen 1, swc 8-18-3w, dr 2600 ft. McPherson's Sorenson 1, c se 23-18-22w, rig.

MARION COUNTY—Shell's Scully 1, nw ne 34-18-2e, UR 6-in cas 2640 ft.

RUSH COUNTY—Danciger's Swindt 1, c sw se sw 22-17-17w, fsh tools 3753 ft. Central Commercial's Brock 1, nec sw sw 12-17-16w, spd and sd.

BARTON COUNTY—Slick et al's Sweeney 1, sw ne 23-17-11w, ROG.

ELLSWORTH COUNTY—Tatlock et al's Sacken 1, c sw se 25-17-9w, dr 560 ft. Texas' Sherman 1, ne sw 16-17-18w, dr 2395 ft.

MARION COUNTY—White Eagle et al's Ucker 1, ne nw 24-17-2e, ROG. American's Urie 1, sw nw 10-17-3e, rig.

LANE COUNTY — Blankenship Pet. Co.'s Shaeffer 1, nec ne 24-16-28w, spd and sd.

SALINE COUNTY—Dixie's Thorstenberg 1, nw ne 10-16-3w, dr 700 ft.

DICKINSON COUNTY—Hiatt & Durham's Wendt 1, nwc 17-16-2e, rig. Prairie's Morgan 1, nwc 26-15-3e, dr 2930 ft, shale. Millmack et al's Biehler 1, sw ne 28-16-4e, sd 3001 ft, shale.

TREGO COUNTY—Prairie's Kutina 1, c ne sw ne 29-15-21w, RU.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw 4-15-20w, fsh, 2555 ft. Finney & Weimer's Freeman 1, nw se se 24-15-20w, spd and sd.

RUSSELL COUNTY — Empire - Prairie's Bocks 1, c se ne ne 23-15-14w, dr 925 ft.

ELLSWORTH COUNTY — Templeman's Lanbangagen 1, c sw 20-15-5w, dr 2535 ft.

SALINE COUNTY—Austin's Olsen 1, c nw sw ne 10-15-4w, spd and sd. Dixie's Muir 1, c sw se sw 6-15-2w, co 3125 ft.

DICKINSON COUNTY—Cress & Hawkey's Menli 1, nec 12-15-2e, rig.

ELLIS COUNTY — Streeter & Stearns' Leiker 1, sw ne 26-13-20w, rig. Mid-West's Berens 36, se nw 12-13-16w, dr 450 ft.

SALINE COUNTY—Twin Boulds' Hughes 1, c w½ ne nw 20-13-4w, no report.

TREGO COUNTY—Phillips' Spitz 1, sec 24-12-25w, RU.

WALLACE COUNTY—Menton & Entrye's Parker 1, c se nw sw 8-12-41w, rig.

TREGO COUNTY—Mid-Kansas' Ridgway 1, ne sw 28-12-21w, dr 1580 ft. Day's Guyler 1, c sw ne ne 36-12-21w, spd and sd.

TREGO COUNTY—Day's Unknown 1, c ne nw sw 2-11-21w, sd 2910 ft.

ELLIS COUNTY—Buren et al's Fisher 1, nw se 4-11-20w, dr.

OTTAWA COUNTY—Derby's Niemueller 1, c nw se 9-10-3e, dr 565 ft.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, RU and sd.

ROOKS COUNTY—Burford & Brimm's Toxa 1, ne sw se 22-9-17w, spd and sd. Krueger et al's Steis 1, c nw se sw 12-9-16w, spd and sd.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swx sw se 27-8-15w, dr 4000 ft.

SHERMAN COUNTY—A. L. Hansen et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

OSBORNE COUNTY—Phillips' Grieve 1, nw se ne 6-7-12w, dr 2265 ft.

RILEY COUNTY—Derby-Skow Bros.' Lundstrum 1, ne 32-7-5e, HFW, 2046 ft.

OSBORNE COUNTY—Trees' Payenter 1, c ne se se 22-6-15w, dr 3368 ft. Mid-Kansas' Boyce 1, se nw 8-6-13e, dr 2150 ft.

RILEY COUNTY—Gray et al's Smith 1, ne se 30-6-6e, dr 1930 ft.

SMITH COUNTY—Phillips' Clydesvale 1, se nw 23-5-14w, UR 10-in cas 2200 ft.

WASHINGTON COUNTY — McCool & Vincent's Linn 1, nw ne 27-4-3e, dr 2300 ft.

MARSHALL COUNTY — Irwin et al's Cooper 1, ne nw 10-3-7e, sd 2240 ft, HFW.

PHILLIPS COUNTY—Watsonian & British American's Weiman 1, c sw sw 34-2-19w, dr 3720 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports; *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

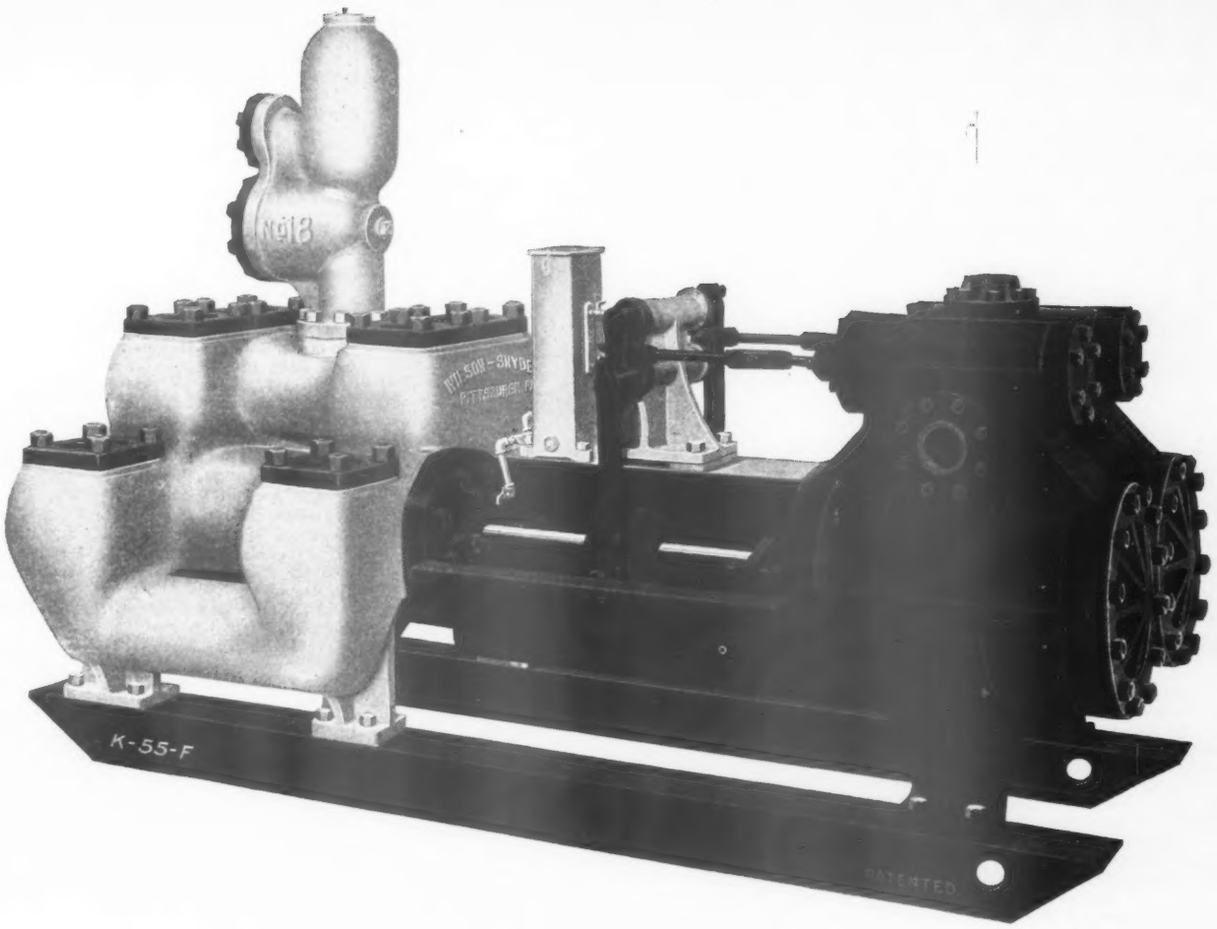
NORTH LOUISIANA

Company, Well and Location		Initial Production Bbls.	Depth
CADDO PARISH—			
A. H. Tarver, Glassell-Dickson 1, 31-20-14	sw		2470
JACKSON PARISH—			
Geo. O. Baird, Tremont Lbr. Co. 1, 24-16-1w	*		3662
RICHLAND PARISH—			
S. R. Humble, La. O.&R. Co. et al 1, 22-17-6e.	sw		2483
WEBSTER PARISH—			
Magnolia Pet. Co., Roseberry 1, 9-23-9	104		2770

BIENVILLE PARISH—W. G. Gray, Tr.'s Snyder 1, 15-16-6w, dr black shale 3665 ft.

BOSSIER PARISH—Corbett et al's Murff 1, 16-17-11, sd 990 ft. Nell & Lanier's Biedenharn 1, 23-21-14, sd 790 ft. Walker et al's Antrim 1, 28-22-13, tested show oil 3078 ft, arr deepen. John F. Woodman's Bolinger 1, 9-22-11, sd wo 3532 ft. Delaware La. Dev. Co.'s Bolinger 4, 38-23-11, 1500 ft oil in hole WOSR td 3170 ft. Frank Estes' Pardee 2, 3-22-11, rig up.

CADDO PARISH—Dixie Oil Co.'s Robert-



Wilson-Snyder Pumps

make more hole in less time with less expense than any other pump on the market. Ask those who are running them.

MUDWATE

Heavy Drilling Mud

Has a Specific Gravity 400% greater than average mud — helps control high pressures —a smooth mixture for lubricating drill stem,—is antive corrosive — prevents caving and sticking, and is easy to mix.

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WILSON SUPPLY COMPANY

OIL AND GAS WELL SUPPLIES

1412 Maury St.
Houston Texas

BRANCHES
Beaumont, Luling, Texas

shaw 92, 13-21-15, bailed dry, shot at 6125 ft did not increase 150,000 ft of gas formerly tested wo td 6351 ft. Sam Gold et al's Hunter 3, 17-19-14, dk; Hunter 4, 17-19-14, lcn. Fred McWilliams' Oden 1, 20-19-14, lcn abn will not drill. S. T. Onyett, Tr's Dixon 1, 10-19-14, dr 2207 ft. I. N. Pahhris, Tr.'s Oden 1, 19-19-14, sd 800 ft. Ohio Oil Co.'s Hunter 4, 17-19-14, dk. Standard Oil Co. of La.'s Henderson 3, 7-19-14, dk; Hunter 3, 17-19-14, set 6-in cas 2360 ft, td 2412 ft; Hunter 8, 17-19-14, lcn. School Board 1, 16-19-14, cored sandy shale 2398-2404 ft. A. H. Tarver's Glassell-Dickson 1, 31-20-14, plugged back to 2177 ft, sw abn, td 2470 ft. Lide et al's Levee Board 1, 24-19-14, dr 1610 ft; Hunter 1, 22-19-14, sd repr boiler, td 2212 ft. D. C. R. Oil Co. & Crystal O. & R. Co.'s Oden 2, 20-19-14, sd 2550 ft. Gulf Ref. Co.'s Hunter 3, 17-19-14, coring blue sandy shale streaks grey sandy shale 2426 ft; Oden 5, 18-19-14, set 6⅝, td 2425 ft. Texas Co.'s Hunter 1, 8-19-14, rig up. J. E. Woodley's Pittman 1, 23-19-14, dk. R. W. Norton's Hill 1, 23-21-16, dr 1900 ft.

CLAIBORNE PARISH—O. G. Collins et al's Mosely 1, 29-20-5w, topped chalk 2027 ft, dr 2320 ft. El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, dr 1287 ft. Triangle Drilling Co.'s Kilpatrich 1, 7-19-5, lcn.

DeSOTO PARISH—P. J. Becker's Tull 1, 23-21-13, fsh ds 2475 ft. Fair et al's Hamilton 1, 1-12-13, sd wo 2855 ft. L. M. Mofffitt, Tr.'s Boatright 1, 3-10-13, TA 3078 ft. Longstreet Synd.'s Ramsey 1, 33-13-16, TA 2802 ft. R. O. Roy's Rogers 1, 13-13-14, sd 2730 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—Geo. O. Baird's Tremont Lbr. Co. 1, 24-16-1w, dry abn, td 3662 ft.

LaSALLE PARISH—Tunica Pet. Co.'s L. & A. 49, 17-7-2e, 250 ft oil in hole WOSR, td 822 ft; L. & A. 50, 16-7-2e, dr 50 ft; L. & A. 51, 16-7-2e, arr test 9 ft sand, td 810 ft.

MOREHOUSE PARISH — Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, dk. White's Chess Wymond 1, 32-19-6e, dr 2888 ft.

NATCHITOCHES PARISH—S. D. Daniels' Clark-Morse 2, 23-5-6w, sd 2536 ft. Robeline O. & G. Co.'s Cassady 1, 7-8-9w, ds stuck 3230 ft. Nichols & Wilder's Clark 1, 10-10-8w, rig up.

OUACHITA PARISH—Haynes Bros.' Dixie Lbr. Co. 1, 54-17-3e, lcn. Ouachita Nat. Gas Co.'s A'Arbonne B-2, 26-19-2e, ds stuck 2648 ft, repr dk, td 3349 ft. Forest & Russell's School Fee 1, 16-16-4e, sd 4350 ft did not test (formerly Phillips et al owners).

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-6n-4w, TA 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, TA 3850 ft. Ayers Bros. et al's Wicklipp 1, 9-5n-2w, lcn.

RED RIVER PARISH — W. D. Ball's Krumbholz 1, 32-14-10, rig up. Benedum & Trees' Franklin 1, 29-11-9, dr 2650 ft. D. H. Reddick's Johnson 1, 17-12-10, rig up. LeGrand et al's Sample 1, 11-14-11, rig up. Eylers Oil Co.'s Chaffraix 2, 30-12-10, lcn.

RICHLAND PARISH — Austin & McDonald's Millsaps 1, 17-17-6e, sd wo 2510 ft; Millsaps 2, 17-17-6e, sd wo 2697 ft; Millsaps 3, 16-17-6e, cemtd 6-in cas 2280 ft; Millsaps 4, 16-17-6e, lcn; Millsaps 5, 8-17-6e, dk. Hope Prod. Co.'s Eubanks 1, 26-17-6e, tested 5 mil ft gas thru ds 2922-2940 ft, set 4½-in cas 2920 ft, td 2942 ft. S. R. Humble's Binion-Sartor 1, 22-17-6e, tested est 3 mil ft gas 2481 ft, heading well. Palmer Corp.'s Eubanks 1, 26-17-6e, dk. La. Pet. Co. 1, 22-17-6e, tested est 2 mil ft gas arr deepen, td 2478 ft; Mills 2, 12-17-6e, set 6-in cas 2315 ft. Southern Carbon Co.'s Binion-Sartor 1, 21-17-6e, fsh ds 2252 ft. Northern La. Nat. Gas Co.'s Boykin 4 (relief well 3), 20-17-6e, ds stuck 927 ft. Hope Prod. Co.'s Boykin 1, 21-17-6e, lcn. Palmer Corp.'s Boykin 1, 21-17-6e, dr 1500 ft.

SABINE PARISH—R. L. Gay, Tr.'s Bowman-Hicks 4, 14-7-14, set 8¼-in cas 2090 ft; Long-Bell Lbr. Co. 1, 26-8-14, sd 3200 ft; Sabine Lbr. Co. 2, 23-7-14, sd 2835 ft; Bowman-Hicks A-1, 34-8-12, sp. A. H. Tarver's Long-Bell Lbr. Co. 1, 29-8-13, sd 3535 ft; Long-Bell Lbr. Co. 2, 18-8-13, dr 2000 ft.

UNION PARISH — G. E. Carmatte's Tugwell 2, 21-22-1w, sd wo 2450 ft.

WEBSTER PARISH—F. M. Fuller's Monzinge 1, 27-18-8, dk. Donohue Oil Co.'s Roseberry 1, 33-23-9, 1400 ft fluid in hole, 5 ft sand, WOSR, td 2767 ft. Hudson's Slack 1, 1-22-11, WOSR, to 2747 ft. Kemp et al's Campbell 1, 11-22-10, out of lin 2653 ft. Magnolia Pet. Co.'s McCook & Hibbler 1, 22-21-10, cored hard sand 6804-6813 ft, cored red beds 6813-6816 ft, show oil, arr ds test, td 6816 ft; Roseberry 1, 19-23-9, pumping 104 bbls oil 88 bbls sw, td 2770 ft; Kight 1, 33-23-9, dr gumbo 2258 ft.

WEST CARROLL PARISH—W. F. Hyde et al's Chickasaw Imp. Co. 1, 24-23-11e, set 12½-in cas 212 ft.

NORTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
PIRU—		
Pacific Western Oil Co.'s Technical 5, 3-4-28	*	4520
LOS ALAMOS—		
L. B. O'Neil's Orena 1	*	3400
SEMITROPIC—		
Richfield's Redding 1, 36-27-23	*	7620

KERN COUNTY

BELRIDGE—Calkern Oil Co.'s 1, 18-28-22, lcn. Casa Mira Oil Co.'s 1, dr brown shale 1400 ft. Ozena Oil Co.'s 2, 27-29-21, dr brown shale 1340 ft. Ventura-Pacific Oil Co.'s 1, 18-21-22, fsh for dr pipe 3450 ft. K. C. Wallace's 1, 32-29-21, dr shale 1938 ft.

BENA—Elmer Oil Co.'s 1, 15-30-30, dr gray sand 2882 ft.

BUENA VISTA LAKE—Ohio Oil Co.'s Pyramid 1, 20-32-25, dr gray shale 4232 ft.

BUTTONWILLOW — Milham Exploration Co.'s Kern 6, 8-28-23, dr shale 3030 ft.

EDISON—Frank Heyd's Cannon 1, 26-29-28, lcn. Symark Oil Co.'s 1, 24-29-29, dr blue shale 1565 ft. Texas Co.'s Newman 1, 23-29-29, grading.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-20, dr brown shale 3737 ft.

LERDO—Shell's Ansolabehere 1, 5-29-27, sd 4190 ft.

McFARLAND—General Pet. Corp.'s KCL-1, 25-26-25, dr gray sand 6220 ft.

MIDWAY—The Texas Co.'s Gore 1, 21-31-22, rigging up.

MT. POSO—Agey Pet. Co.'s Agey 1, 28-27-27, dr shale 900 ft. Bowles Oil Co.'s Buttram 1, 24-27-28, rigging up rotary. Bruce Frame's 1, 21-26-28, bailing water, td 1590 ft. Girard and Phillips' 1, 32-27-29, dr shale 1440 ft. Petroleum Securities' Glide 17, dr shale 780 ft.

ROSEDALE—Elmer Oil Co.'s Houghton 1, 33-29-26, dr sandy shale 4575 ft.

SHALE HILLS—Day Oil Co.'s 1-A, 1-27-18, fsh for dr collar and bit 1430 ft.

SHAFTER—Elmer Oil Co.'s McVey 1, 8-18-25, will deepen from 6065 ft.

SUNSET—Union's Fried 1, 8-11-23, rigging up rotary.

TEMBLOR HILLS — Lincoln Drilling Co.'s 1, 18-32-23, dr 1000 ft. Gus Nickovitch's 1, 9-30-21, dr 150 ft.

SANTA BARBARA COUNTY

ARLIGHT—Standard's Sudden 1, 35-6-26, dr gray sand 1175 ft.

BETTERAVIA — Shell's US-A5, 36-10-35, coring 2525 ft; US-A6, 25-10-35, coring 1528 ft.

BUELL—Union's Buell 1, re-dr 1075 ft.

CARPENTERIA — Continental's Bailard 1, dr brown shale 4578 ft.

CASMALIA—Keystone Oil Co.'s Paderewski 1, 33-10-34, dry sandy shale, 2175 ft. Wildcat Oil and Royalty Co.'s 1, 20-10-35, coring shale and sand 1575 ft.

CAT CANYON—Palmer-Union Oil Co.'s Stendill 20, dr shale 6300 ft.

GIBRALTAR DAM — Pacific Western Oil Co.'s 1, 14-5-27, rig.

GOLETA—F. G. Anderson's Langman 1, deepening from 4550 ft. General Petroleum's More 1, 21-4-28, trying to kill gas flow, td 4523 ft. Petroleum Securities' Bishop 1, dr shell and shale 4575 ft.

LOMPOC—Gaviota Oil Co.'s Marretti 1, 9-7-35, dr shale 1077 ft.

NAPLES—Pacific-Western's Wiley Ranch 1, 7-4-29, fsh 3920 ft.

ORELLA — General Petroleum's Erburu 1, fsh for dr pipe 625 ft. Shell's Rutherford 1, 36-5-31, dr hard sand 5800 ft.

POINT—CONCEPCION — Western Gulf's Hollister 2, rig.

SAN MARCOS—Calif. Oil Properties' Fortine 1, rigging rotary.

SANTA BARBARA—Channell Oil and Development Co.'s Pinkham 1, 29-4-27, sd 6303 ft; Fellowship 1, 29-4-27, dr shale 1928 ft.

SANTA MARIA—System Oil Co.'s Bradley 1, 36-10-34, dr out cmt 4280 ft.

SURF — Keystone Petroleum Co.'s True Ranch 1, dr shale 2475 ft.

VENTURA COUNTY

CASITAS—Miley Oil Co.'s Casitas 2-A, dr hard sand 1717 ft.

CONEJO—Triunfo Oil Co.'s 1, 24-1-19, sd 1410 ft. American Oil Co.'s 1, 33-2-20, co 1210 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, fsh for dr pipe 2000 ft.

OJAI—Bishop Corp.'s Gilmore 1, 14-8-22, grading for rig. California-Ventura Oil Co.'s LaCrosse 1 running 10¾ in cas 3815 ft. Continental's Sulphur Mountain 1, 21-4-22, dr hard sand 2414 ft. Rancho Riva Oil Co.'s No. 8, dr shale 1275 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1-A, 4-4-18, dr hard sand 832 ft. Wasibi Oil Co.'s 2, 34-5-19, dr hard brown shale 3830 ft.

RINCON CREEK—Associated's Snowball 1, 19-4-24, material for rig.

SANTA PAULA—W. W. Bryant's Anlauf 4, 21-4-21, dr 150 ft. Empire Oil Co.'s No. 4, 13-4-21, dr shale and sand 1434 ft. San Pedro-Pt. Fermin's Kellerman 1, 13-4-21, dr shale 1165 ft. Wardman and Jones' Anlauf 1, 21-4-21, deepening from 1320 ft.

SATICOY—Standard's Citrus 5, 10-2-22, dr shale 7800 ft.

SIMI—Shell's Marr 1, 31-3-17, coring 3728 ft.

MISCELLANEOUS

FRESNO COUNTY—Hornaday and Huggins' 1, 32-14-28, dr shale 4100 ft. Petroleum Securities' Ladd 1, 28-20-16, dr blue shale 5732 ft. Rio Grande Oil Co.'s 1, 14-13-17, new lcn. Section Thirty Oil Co.'s 2, 30-19-15, putting on pump.

KINGS COUNTY—H. B. Porter's 1, 9-24-17, dr shale 1040 ft.

MENDOCINO COUNTY — Twin State Oil Co.'s 1, 14-12-17, straightening hole, td 724 ft.

MONTEREY COUNTY — Standard's Piedmont 1, 23-22-27, sd 225 ft. Shell's Dudley 1, 15-22-9, preparing to test, td 3765 ft.

SAN LUIS OBISPO COUNTY — Indian Dome Oil Co.'s 1, 25-31-12, dr shale 3050 ft. Midwest Oil Co.'s 1, 34-31-15, dr shale 2222 ft. Painted Hills Oil Co.'s 1, 34-30-10, dr shale 2318 ft. Panorama Oil Co.'s 1, 7-31-21, co 4000 ft. Paso Robles Oil Co.'s Emerick 1, 27-27-11, dr shale 2915 ft. Pismo Dome Oil Co.'s Pricco 1, 5-31-13, cmt 12½ in cas 700 ft. San Luis Syn.'s 1, 29-31-13, dr 3100 ft. Texas Pacific Coal and Oil Co.'s 1, dr shale 2450 ft. Union's Russ 1, dr shale 3858 ft. Chaldler 1, dr hard sand 4155 ft.

TULARE COUNTY—Petroleum Securities' Vedder-Hart 1, 22-24-27, dr shale 1900 ft.

SOUTHERN CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
NEWHALL—		
Southern California Drilling Co.'s Needham 1	100	1358

BELVEDERE—W. H. Taylor's Hellman 1, 32-1-12, dr hard sand 5576 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 2, 23-3-17, dr shale 5128 ft.

CLEARWATER—The Texas Co.'s Montana Land Co. 1, 8-4-12, dr sandy shale 5130 ft.

COMPTON—California Well Drilling Co.'s Del Amo 1, 11-4-13, dr shale 8282 ft.

FULLERTON—Shell's Bastanchury 1, 28-3-10, dr shale 5160 ft.

HAWTHORNE—Standard's Freeman 1, 5-3-14, dr shale streaks oil sand, td 7115 ft.

MONTEREY PARK—Monterey Park Pet. Co.'s Jepson 1, 25-1-12, dr hard brown shale 5222 ft.

NEWHALL—P. B. Anderson's 1, 1-3-16, 10 in cas cmt 550 ft.

NEWPORT—Oilwell Eng. Co.'s Interstate 2, testing water shutoff 2800 ft. Western Gulf Oil Co.'s Banning 1, dr gray sand 730 ft.

PIRU—Coastline Oil Co.'s Mazie 1, dr gray sand 1000 ft. J. M. Queen's 1, 22-3-16, fsh for bit 200 ft.

POMONA—Pomona Oil Ass'n's Community 1, 32-1-8, 6¼ in cas cmt 1200 ft.

PUENTE—Brea Canyon Oil Co.'s Bierd 1, sr 860 ft. R. C. Rucker's Grazide 1, 8¼ in cas cmt 1600 ft, td 2150 ft.

RICHFIELD—Southwestern Oil Co.'s Day 1, 21-3-9, dr out cmt, td 5775 ft.

TELEGRAPH CANYON—Union Rimpau 1, 13-13-9, dr shale 4250 ft.

VENICE — Ohio Oil Co.'s Recreation Gun Club 1, dr brown shale streaks oil sand 4250 ft.

RIVERSIDE COUNTY—Hemet Pet. Co.'s Ward 1, dr shale 3400 ft.

SAN BERNARDINO COUNTY—Urmi Oil Co.'s Schuh-Zellers 1, 12½ in cas cmt 565 ft, td 600 ft.

ARKANSAS

CALHOUN COUNTY—
Phillips Pet. Co. et al, Freeman-Smith Lbr. Co. 1, 25-16-13..... * 3332

UNION COUNTY—
Ohio Oil Co., Stout Lbr. Co. Acct 2, 30-16-13..... * 3222

ASHLEY COUNTY—J. C. Marcum's McCarry 1, 10-19-4, sd repr rig 2363 ft.

CALHOUN COUNTY—Phillips Pet. Co. et al's Freeman-Smith Lbr. Co. 1, 25-16-13, dry abn td 3332 ft.

COLUMBIA COUNTY—Talbert & Markle's Copeland 1, 31-19-19, lcn. Jacob Laskin et al's Dennis 1, 11-20-23, plugged back to 3600 ft and tested sw there sd wo td 3696 ft. Helena O & G Co's Pickler 1, 19-19-22, r to bottom arr resume dr 2647 ft.

DREW COUNTY—McClintock & Goedke's Ogle 1, 35-13-5, sd 2530 ft.

FAULKNER COUNTY—Gold Creek O & G Co.'s Stermer 1, 17-4-13, TA 3782 ft.

FRANKLIN COUNTY—Ozark Nat. Gas Corp.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, dr with tools 3045 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, sd wo 1668 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, TA 1400 ft.

JOHNSON COUNTY — Blackwell O & G Co.'s Wyver 1, 21-9-25, sd 5200 ft.

LINCOLN COUNTY—Pine Prairie O & G Co.'s Carter 1, 33-10-6, arr resume dr 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, TA 2941 ft. C. F. McDonald's Black 1, 12-13-28, dr 1088 ft. Buck Oil Co's Taafe 1, 25-12-32, rig up.

LOGAN COUNTY — Ark. La. Pipe Line Co.'s Hanna 1, 26-7-23, pulling 7-in cas to r to 3221 ft.

MADISON COUNTY—Phillips Pet. Co.'s Skinner 1, 11-14-25, lcn.

MILLER COUNTY—Lenz et al's Bossier Land Co. 1, 13-15-26, dr 300 ft.

OUACHITA COUNTY—Copenhaver et al's Warnick 1, 2-15-17, sd wo 1664 ft. Flaucher et al's Bucks 1, 7-15-17, TA 2465 ft. Lohman et al's Fogle 1, 18-14-16, sd 1510 ft. Timberlake et al's Wright 1, 25-14-18, sd wo 2907 ft. Wesson et al's Booth 1, 12-15-19, sd 2203 ft. Artex Oil Co.'s Wilson A-2, 25-15-18, standing 2000 ft in oil show sw 9 ft br sand WOSR td 2765 ft. Houston Oil Co.'s Wilson B-4, 25-15-18, moving in rig. Geo. Kouri et al's A. Wilson 1, 26-15-18, cored sw sand and sandy shale 2802-2829 ft repr rig td 2829 ft. E. M. Jones' Wilson A-1, cored sw sand 2750-2755 ft, dr 2763 ft. Atlantic O. P. Co.'s & E. M. Jones' Allen C-1, 25-15-18, lcn.

POPE COUNTY—Ark. La. Line Co.'s McFadden 1, 15-9-21, rig up.

PULASKI COUNTY—Wonder State Dev. Co.'s Wilson 1, 21-2-11, lnc.

SEBASTIAN COUNTY—Lavaca O & G Co.'s Cason 3, 21-8-30, dk.

UNION COUNTY—Modisett et al's Union Sawmill 1, 1-18-14, coring 2898 ft. S. Arrendale's Gallagher & Nelson 1, 18-18-17, sd 2268 ft. W. M. Coates, Tr.'s McDuffie 1, 32-19-16 cemtd 6⅝ in cas 3934 ft td 4056 ft. O. W. Estes' Ramsey 1, 24-17-14, dk. McDonald Bros' Mayfield 1, 29-19-15, TA 2210 ft. Ohio Oil Co.'s Stour Lbr. Co. 1, Acct 2, 30-16-13, dry abn td 3222 ft. T. J. Woodley's First National Bank 1, 34-19-18, dk. J. P. Hawkins et al's Goodwin 1, 6-17-15, cored sandy shale 2219-21 ft arr swab. Addy & Modisett's Union Sawmill 1, 25-19-12, lcn. E. M. Jones' Henry Murphy 1, 34-19-14, sd to dig water well td 2312 ft. Simon et al's Welch 1, 30-19-17, lcn.

WASHINGTON COUNTY—Lincoln Lease Holding Co.'s Townsite 1, 30-15-32, dr 1040 ft. C. H. Willoughby's Jones 1, 34-16-30, dr 1342 ft.

WHITE COUNTY—Letona Synd's Letona 1, 35-9-8, dr 3460 ft.

VAN BUREN COUNTY—J. S. Martin's Scanlan 1, 5-9-13, sd 50 ft.

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 14, Peerless Oil Co. et al's, Cromwell 1, c sw se, dr 1500 ft.

GRANT COUNT—T 28n, R 4w, Sec. 12, Boucher et al's, Dedmon 1, sw se, dr 2700 ft.

KAY COUNTY—T 28n, R 1w, Sec. 24, DeCamp & Lancer, Covey 1, se c ne, dr 2340 ft.

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, dr 5197 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Brothers, Forbes 1, ne, se nw nw, sd 1420 ft.

GRANT COUNTY—T 27n, R 5w, Sec. 20, J. V. Bailey, Brewer 1, c sw se, bldg. rig.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, cored 3233-42, 3275-85, dr 3560 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent et al, McNeal 1, nw c ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer, Cooper 1, nw c se, sd. 4182 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al, 1, se c sw, dr 5795 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, lost tools 5640 ft sd.

WOODWWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot, Simmons 1, se c, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec, 18, Miller et al, Copenhaver 1, nwc, spd and sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma, Acre 1, swc ne, rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, sec nw, hfw 4730-4800 ft, td 5556 ft rep rig.

WOODWARD COUNTY—T 23n, R 20 w, Sec. 9, Billy Oil Co., Wyatt 1, e se, hfw, 3807-25 ft dr 3975 ft. T 23n, R 17w, Sec. 2, John Farrand, Belva 2, csl sw se, sd 1387 ft.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al. Creech 1, nec sw sd 510 ft.

NOBLE COUNTY—T 22n, R 1e, Sec. 22, Peerless et al, Wentz 1, nwc sw, mvg in rig T 22n, R 1e, Sec. 24, Gypsy, Dailey 1, sw ne ne, dr 4570 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon, Elmore 1, swc, rig blown down, 3025 ft td. T 21n, R 19w, Sec. 15, Burgoyne Bros., Merklin 1, sw se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et aal, Horton 1, c ne ne, spd and sd.

NOBLE COUNTY—T 20n, R 1w, Sec. 26, Magniloa, King 1, sec sw, hew 3730-3780 ft. Standy at 4343 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, 2945 ft, sd.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co., Quier 1, sec sw, sd 3970 ft.

KINGFISHER COUNTY—T 16n, R 7w, (OWDD) show gas 4088-6128 ft, sd 5278 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna, Sturgeon 1, nec sw, sd 4895 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears, Piatt 1, swc nw, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 1w, Sec. 13, T. B. Slick, Martin 1, c nw nw, dr 4370 ft.

TEXAS COUNTY—T 1n, R 15ecm, Sec. 25, Skaer et al, Hitch 1, nwc sd 250 ft.

OSAGE COUNTY—T n, R 7e, Sec. 19, Peters Pet., 1, sec ur 10 in at 1440 ft. Sec. 23, White Eagle, 1, nwc ne se, dr 2645 ft. T 24n, R 6e, Sec. 13, A. G. Oliphant et al, 1, nec sw, rigging up. T 23n, R 10e, Sec. 32, Union Oil & Mining Co., 1, sec nw, hf oil 2513-28 ft pump 15 bbls.

PAYNE COUNTY—T 18n, 6e, Sec. 4, Consolidated Drlg. Co., Freeman 1, swc sd 1730 ft.

LINCOLN COUNTY—T 17n, R 4e, Sec. 27, Blacklell O & G Co, McKeown 1, ne sw sw, Bartlesville 3781-3838 shows gas and water. T 17n, R 5e, Sec. 7, Mote & Wheeler, McLaughlin 1, se nw nw, ur 12 in 1112 ft. T 17n, R 6e, Sec. 28, F. R. Billingslea, Davis 1, se ne ne, dr 675 ft T 16n, R 5e, Sec. 1, Flynn & Morgan, Johnson 1, swc ne rig. T 14n, R 6e, Sec. 33, Mangolia Pet. Co., Mitchell 1, nec, sd 4503 ft T 13n, R 3e, Sec. 29, Phillips Pet. Co., Roberson 1, sec nw, dr 2550 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 36, Henry Oil, Harjo 1, nwc, dr 516 ft. T 12n, R 10e, Sec. 3, Shepard et al, Spehard 1, se nw sw, spd. T 11n, R 10e, Sec. 9, C. O. Buckles et al, Tarvin 1, nwc se, lcm

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, swc nw se, show oil 5446-70 ft, 1 m gas 5464-80 ft shot 240 qts 5556-59 ft, fshg tools.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil, Sanders 1, nw ne sw, gas at 1800 ft sd 2692 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O & G Co., Murray 1, swc, 1½m gas 2518-30 ft, show gas 3380-3400 ft, set 5 in 3950 ft fish tools 3954 ft.

OKLAHOMA COUNTY—T 12n, R 1w, Sec 19, Mid Kansas & Ramsey, Trosper 1, nec nw, td 6904 pb to 6200 ft fish. T 12n, R 2w, Sec 30, Magnolia, Noble 1, nwc sw sw, fishg 6443 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 6, Superior, Carolina 1, sec, dr 3902 ft.

SEMINOLE COUNTY—T 10n, R 5e, Sec. 28, McCulloch et al, Luckett, nec nw, sd 3975 ft. T 10n, R 6e, Sec. 12, I. T. I. O., Chatkey 1, swc ne, dr 3740 ft.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Canady et al, Kanard 1, swc nw nw, sd 100 ft.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 9, Cal Cul, Wilson 1, nw ne nw, dr 4150 ft. T 8n, R 4e, Sec. 3, Tidal Oil Co. et al, Bulley 1, swc nw, R. O. G. Sec. 9, Keister & Manning, Tibbes 1, nec sw, dr 2640 ft.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sonner, Vandeveer 1, ne nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 15, Amerada & I. T. I. O., Vineyard 1, nw ne ne, cemtg. 8 in 4340 ft Sec. 19, Frank Moore, Fundis 1, sec ne, lcn . T 6n, R 3e, Sec. 11, Shaffer & Margay, Adams 1, nec dr 4010 ft.

McCLAIN COUNTY—T 6n, R 3e, Sec. 36, Sikes et al, Cook 1, sw nw ne, rig.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 8, E. L. Harris, Harjoche 1, se ne se, spd and sd.

POTAWATOMIE COUNTY—T 5n, R 5e, Sec. 4, I. T. I. O., Philpot 1, nwc, bldg rig.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney, Huddleston 1, sec sw, fishg 3935 ft. T 5n, R 11e, Sec. 15, Amerada, Ott 1, sec sw, rig.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key, Tall 1, c nw nw, 2420 ft ur 8 in.

COAL COUNTY—T 2n, R 8e, Sec. 6, J. S. Cosden, Richarson 1, nw ne ne, dr 2715 ft. Sec. 7, McGinely & Sigler Wiltsey 1, nw se se, dr 2918 ft. Sec. 10, E. W. Whitney, Miller 1, sec ne, sd 202 ft

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt, Wellman 1, c se, 100 ft. abandoned.

ROGER MILLS COUNTY—T 12n, R 24 w, Sec. 23, Bucy & Stone, Williams 1, c sw lcn. T 11n, R 26w, Sec. 4, L. C. Hivick, Davis 1, c nw ne, run 6 in 1700 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al. Denby 1, sw se ne, 1560 ft sd.

GREER COUNTY—T 6n, R 24w, Sec. 17, I. T. I. O. et al, Fee 1, c ne, run (standardy) 12 in 1902 ft.

CADDO COUNTY—T 6n, R 12w, Sec. 8, Abernathy & Brown, Horton 1, sec, sd 527 ft. T 6n, R 10w, Sec. 26, English Drlg .Co., Gardner 1, nwc, sw, sd 1600 ft. T 5n, R 17w, Sec. 2, N. P. McWhirter, Sherwood 1, swc, ne, dr 1135 ft.

HARMON COUNTY—T 4n, R 26 w, Sec 8, S .M. Stauffer, Castleman 1, nwc se, sd 625 ft.

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al, Northington 1, nec 2020 ft. abandoned.

COMANCHE COUNTY—T 1s, R 11w, Sec. 17, Bridwell et al, Porter 1, nec se se nw, dr 1535 ft.

STEPHENS COUNTY—T 2s, R 4w, Sec. 21, Magnolia, Martin 1, swc, dr 2580 ft.

JEFFERSON COUNTY—T 5s, R 7w, Sec. 35, Monohan & Porter, Paddock 1, cnl nw ne, dr 3187 ft. T 6s, R 7w, Sec. 13, Pearce & Brown, Fisher 1, sec sw, D. & A. 2501 ft. T 7s, R 7w, Sec. 2, Superior, Nesmith 1, sw se se, rig.

McCLAIN COUNTY—T 5n, R 3e, Sec. 16, Homaokla Oil Co., Newton 1, se ne ne, dr 2910 ft.

GARVIN COUNTY—T 4n, R 2e, Sec. 8, Tidal et al, Halverson 1, c sw ne, hfw 4052-55 ft D. & A.

JOHNSTON COUNTY—T 1, R 7e, Sec. 29, Smith & Kinsley, Lane 1, sec nw, sd 2250 ft.

CARTER COUNTY—T 3s, R 4w, Sec. 23,

XUM

Porter & Monohan, Robinson 1, sec nw, dr 1530 ft. T 4s, R 1e, Sec. 32, Leonard Woodruff, Zellner 1, ne ne se, hfw 2125-30 ft, dr 2135 ft. T 4s, R 2e, Sec. 32, Tex-Okla. Drlg. Co., Anderson 1, se ne se, sd 420 ft.

MARSHALL COUNTY—T 5s, R 5e, Sec. 17, Jordan et al, Pen Mutual 1, nw ne se, sd 360 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. C. Endicott et al, Graige 1, c nw ne, sd 1790 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Prairie, Wilbur 1, nec dr 5180 ft.

CLEVELAND COUNTY—T 10n, R 2w, Sec. 8, Prairie, Phillips & Slick, Sudik 1, c ne ne, dr 7099 ft.

MISSISSIPPI

ALCORN COUNTY—Alcorn Pet. Co's Mattehws 1, 14-2-7, dr limestone 2350 ft.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13-13, trying shut off quicksand 1240 ft.

CLAIRBORNE COUNTY—Ben White's Old Hen 1, 26-10-4, fish drill pipe td 1973 ft.

HARRISON COUNTY (Gulfport Dist.)—Dalton Oil Cos L'opez 1, 15-7-10w, lcn.

HINDS COUNTY (Jackson District)—Mrs. Ella Rawls Reeder's State Land 1, 25-6-1, sd 2895 ft. Hennesseys etal's Riverside 1, 23-16-5, sd 105 ft. Southern Christian Institute's Fee 1, 29-6-4, dr gumbo 360 ft.

HUMPHRIES COUNTY—Steel et al's Love 1, 30-14-3, sd 60 ft.

LAFAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, laying water line to dk.

LAUDERDALE COUNTY (Meridian Dist.)—Maridian Nat. Gas Cos Matt'ie Houser 1, sd in sandy shale for water td 2078 ft. Lauderdale O & G Co's Lackey 1, 2-7-16, dr sand 2420 ft. J. E. Smith Oil Co's Craig 1, 2-6-14, dk.

LINCOLN COUNTY (Brookhaven Dist.)—Miss. Land & Oil Co's Pat Case 1, 21-8-6, sd after setting 12½ in cas 368 ft.

LEE COUNTY—Lee County Pet. Co's Hickman 1, 12-8-6, sd 920 ft.

MONROE COUNTY (Amory Dist.)—Amory Pet. Cos Hall 1, 8'-13-17, fsh cas td 3045 ft. Amory Dev. Co's Bourland 1, ur cas 2580 ft. Ark. Nat. Gas Corp's Rye 1, 22-15-17, dr sandy limestone 3682 ft. Park Bawser's Cowart 1, 2-12-19, arr to resume with drill pipe.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-5, coring 2337 ft.

WEBSTER COUNTY—Cumberland Oil Co's Hanley 1, 15-2-11, TA 1865 ft.

YALABOUSHA COUNTY (Water Valley Dist.)—Philp Bros' James 1, 20-11-5w, dr black shale with sandy shells 3007 ft. J. D. Collette et al's Blackmen 1, 14-11-4w, lcn.

ALABAMA

CHOCTAW COUNTY — Gulf Ref. Co., Thornton 1, 21-9-2..

CHOCTAW COUNTY—Robinson & Greer's Douglas Oil Co. 1, 15-9-2, sd in chalk for fuel td 2100 ft. Gulf Ref. Co's Dease 1, 33-9-2, dr 800 ft. McCall 1, 30-9-2, lcn.

HOUSTON COUNTY—J. R. Sealy's 1, 13-1n-27e, changing from cable tools to rotary td 3100 ft.

LAMAR COUNTY—Briggs & Knapp's Wefel 1, 25-12-14, set 6in cas 1040 ft dr sandy shale 1180 ft.

LAWRENCE COUNTY—Peerson Drilling Cos Jacobs' 1, 11-7-7, TA 300 ft.

MARION COUNTY — P. J. McAlphine's Clark 1, 29-11-14, lcn.

SUMTER COUNTY—B. W. Bates's Fee 1, 3-18-1w, sp.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd 650 ft. Hobson Bros. 1, 9-8-2, dr sand and shale 1450 ft. Oscar Browns U. S. 'Land and Cotton 1, 26-3-2, no report.

TENNESSEE

DECATUR COUNTY—Standard Oil Co. of La.'s Wyatt 1, arr resume dr 1260 ft. Chester County O & G Co's Montgomery 1, set 6 in cas 1045 ft dr 1076 ft.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co's Rosenburg 1, King sur, TA 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

MARRISON COUNTY—McRihchie et al's Dean 1, Craft sur, dr shale 2612 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1863 ft. Shad Harper's Garland 1, Wagley sur, sd 1440 ft. Johnson Pet. Co's Randolph 2, Dean sur, sd 1862 ft.

SHETLBY COUNTY—Chapparral Oil Co's Holt 2, Matthews Moore usr, sd 3004 ft. Gulf Ref. Co's Caraway 1, Patterson sur. dr blue shale strks grety lime 6479 ft. Benedum & Trees' Pickering Lbr. Co. 1, Yordt sur, sp.

MOUNTAIN STATES

COLORADO

ADAMS—N. M. Slatt, Hill's 1, se 27-3s-54w, dr 515 ft.

ARCHULETA—Juainta Oil Co., Harvey 1, sw 4-32n-3w, stand 725 ft.

BENT—Conoco, Pipe Springs 1, se 27-29-49, dr 4750 ft.

DELTA—Crawford O. & G. Co., ne 28-15s-1w, dr 350 ft.

DOLORES—Transcontinental, Glade 1, nw 30-41-16, fsg 4005 ft.

ELBERT—Belmont Oil Co., Maher 1, sw 4-6s-59w, dr 3570 ft.

HUERFANO—Parker Club Inc., Fee 1, 4-28-68, resum 3016 ft.

JACKSON—Midwest, Rich 21X, nw 9-6-8, dr 2120 ft. P. & R., Henderson 1, 2-6-81, dr 2418 ft.

JEFFERSON—Ruby Hill O. & G. Co., Braden 1, se 14-4s-69w, dr 3462 ft.

LASANIMAS—Trinidad Dev. Co., Flanta 1, sw 23-32-63, dr 1500 ft. Helium Co., Inc., Huff 1, nw 35-29s-60w, dr 895 ft.

LARIMER—Barrows et al, 7-11s-68w, sd 2000 ft. Standard of Colo., State 1A, sw 16-4n-69w, by bbls. (est.) 3793 ft.

LAPLATA—Royal P. & R., Red Mesa 1, 27-33-12, resum 860 ft. Detroit Oil Assn, Olbert1, sw 9-35-12w, dr 1865 ft.

LINCOLN—Kelly Oil Co., State 1, ne 36-14-57, dr 2470 ft.

MESA—High Line Oil Co., Hoel 1, ne 23-8s-104, prep to resume 2717 ft.

MOFFAT—McLaughlin ea tl, Wms 1, 2-3-91, dr 4155 ft. McCormick et al, Sales 1, se 28-4n-92, repair 3140 ft. Vermillion O. & G. Synd., 1, se 23-9n-100w, dr 500 ft.

MONTROSE—Uncompaghre O. & G. Co., Colo-Title & Trust 1, 27-50-10, dr 2070 ft.

MONTEZUMA—Hallet et al, 1 sw 14-36-14, spd 50 ft.

PUEBLO—Beulah Done Oil Co., Hedland 1, sw 72-23-57, sd 670 ft.

RIO BLANCO—White Eagle, Fordham 1A, sw 9-2-96, dr 2655 ft, strong show gas. Texas Prod. Co., Potter 1, sw 30-2n-96w, dr 3775 ft.

ROUTT—Midwest 10, nw 4-7-86, dr 1250 ft.

YUMA—Major Pete, Black Wolf 1A, sw 7-2-43, stand 1535 ft. Phillips, Andres 1, nw 3-2-42, dr 3410 ft.

WASHINGTON—Donohoe et al, Middlemist 1, se 14-4s-56w, spd 20 ft.

WELD—Platte Valley Pete Corp., Patterson 1, sw 23-8n-61w, sd 4400 ft.

NEW MEXICO

CHAVES—Warman Oil Trust, 1, sw 23-13-24, rig burned. Transcontinental, Robbins 1, 1-14s-28e, dr 4410 ft. Cactus Prod. Co., Sullivan 1, 14-10s-28e, dr 405 ft.

DEBACA—Matador Oil Co., State 1, sw 6-4n-20e, td 2705 ft. Pittsburg Oil Co., 1, ne 16-1s-27e, wait for cas 4506 ft. Transcontinental, McWorther 1, 6-35-22e, dr 4512 ft.

GUADALUPE—Los Angeles-Hollywood Oil Synd., McMullen 1, sw 24-5n-16e, resum at 235 ft.

LEA—Midwest, Leech 24, nw 15-19-38, dr 3340 ft. Midwest, Gregory 22, sw 31-25-37, strummg 3315 ft. Gypsy Oil Co., Mattern 1, 24-21-36, dr 3725 ft, show gas. Exploration Co., Record 1, 26-19-35, td 4556 ft. Texas, Moberly 1, se 17-26-37, sd 3542 ft. Empire Gas & Fuel Co., Closson 1, se 6-22-36, dr 3595 ft. Pueblo Oil Co., Lee 1, ne 4-173-29, dr 3375 ft. Ohio Oil Co., State 1, 9-13-38, dr 2906 ft. Ohio Oil Co., McGeorge 1, ne 30-20-33, abd 3705 ft. Buell & Hagen, State 1, ne 13-11s-35e, dr 2362 ft. Conoco, Myers 1, sw 17-21-36e, dr 3278 ft. Conoco, Meyer 1, nw 28-22s-36e dr 1800 ft. Conoco, Flint 1, se 29-20s-34e, abd 3770 ft. Conoco, McCallister 1, se 24-26-36, test 3234 ft. Conoco, Wells 1, ne 11-25-36, plugg back from 3560 ft. Shell Pet. Corp., Terry 1, ne 22-19-38, dr 1600 ft. Humble O. & R. Co., Bowers 1, 30-15-38, td 3270 ft, rig burned. Humble O. & R. Co., Lindley 1B, se 14-25-36, dr 510 ft. Rector Oil Co., King 1, sw 27-25-32e, dr 3510 ft. Walker et al, Terry 1, se 10-19s-38e, dr 4066 ft. Texas Pacific C. & O. Co., State 2, sw 21-22-63, dr 3350 ft. Magnolia Pet. Co., Lindley 1, ne 26-25-36e, dr 2335 ft. Maljamar O. & G. Corp., Basis 2, ne 21-17-3e, dr 2795 ft Reynolds Dr. Co., Merchant 1, nw¼ 15-22-34e, hole lost, rig skid. Penn Oil Co., State 1, ne 21-19s, 36e, rigging up. Broadages et al, Hughes 1, 27-19s-38e, co 4012 after long shutdown.

McKINLEY—J. W. Halsell, Santa Fe 1, 17-19-9, dr 2245 ft. San Juan C. & O. Co., 1, se 27-18n-9w, to run 5 3-16-in at 2110 ft. Wms et al, A. T. S. F. 1, sw 19-18n-8w, dr 975 fe.

ROOSEVELT—Smith & Sloan, Lovern 1, se 4-3s-63, wait cas 4200 ft.

RIO ARRIBA—Berringer et al, Hartman 1, SAN JUAN—Dorothy Oil Co., 29-30-9, dr. ne 8-29-7, dr 825 ft.

847 ft. Kutz Canon O. & G. Co., Day 1, 20-22-10, dr 920 ft. Blackrock Oil Co., 1, sw 11-25-13, sd 1550 ft. Angel Peak Oil Co., Kutz Canon 1, 11-28n-11w, fsg bailer, gassing 3100 ft. Greathouse et al, Roberick 1, sw 11-22-14, prep to run 6 5/8-in to so water 700 ft. Childers Dr. & Pr. Co., Westwater 2, nw 34-31-18, pull cas. Reserve Oil Co., Shaffer 2, ne 1-21-14, dr 681 ft.

SAN MIGUEL—Pioneer O. & G. Co., Thunderbird 1, nw 14-15-16, dr 2125 ft. Starr Oil Co., Adams 1, ne 25-17-16, dr 2115 ft.

SOCORRO—Arnold et al, 2, ne 13-6-1, sd 1975 ft.

Torrance—Bulhall O. & G. Co., 20-6-10, stand 1800 ft. Wms et al, Staplin 1, ne 16-8n-10w, dr 755 ft.

VALENCIA—Rio Puerco Oil Co., N. M.-Ariz. Land Co., 2, nw 13-6-2, wait pipe 3145 ft, water shortage. Acme Oil Co., N. M.-Ariz. Land Co., 1, 26-6-3, dr 4055 ft.

WYOMING

FRANNIE DOME—Midwest Refining Co., Robenburg 36, nw 25-95-98.

BIG HORN—P. & R., 3, 24-56-98, prep run cas 4178 ft. Cody Pet. Wilcox 1, 27-57-96, sd 1320 ft. Westland Oil 33-55-95, spdd Westland Oil, 24-54-95, straigtening crooked hole at 180 ft.

CARBON—P. & R., Hatfield 2, 2-18-88, sd 4003 ft. P. & R., Grenville 2, 28-21-86, compl 435 ft. P. & R., Grenville 3, 28-21-86, dr 412 ft.

FREMONT—P. & R., Muskrat 4, 17-33-91, dr 194 ft. Kinney-Coastal, 22-3-1, wait for cas. Texas Prod. Co., State 1, 36-34-95, spd.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, dr 3600 ft Midwest 8, 6-44-98, dr 785 ft. Gebo Consolidated, 23-43-95, showing at 800 ft.

LINCOLN—Midwest, Grey's River 1, 25-37-117, dr 1514 ft.

NATRONA—Prairie O. & G. Co., Baird 1, 22-31-81, abd 3350 ft.

PARK—P. & R., Pitchfork 1, 14-48-192, recem 1558 ft. Midwest, Rosenburg 1, 26-58-98, dr 1635 ft. Ohio, Burlington 1, 21-53-101, chang to rotary 1344 ft.

SWEETWATER—Mtn. Fuel Supply Co., Tucker 1, 18-13-99, dr 2734 ft. Mtn. Fuel Supply Co., Newberger 1, 13-12-101, test 60m 2367 ft. Vermillion Oil Co., sw 16-12-100, no report.

UINTA—California Co., U. P. 1, 7-17n-119w, dr 4058 ft. Park City Oil Co., Christenson 1, 6-15n-115w, stand. Doheny, 6-14-118, dr.

WESTON—Wyo. Drg. Synd., 15-44-64, sd 5000 ft., wait, orders. Gose Synd., 28-47-64, resum dr at 5000 ft. Fiddler Creek Synd., 11-45-64, cav at 950 ft.

MONTANA

BLAINE—Midwest, 6, 35-32n-19e, show at 655 ft, dr 700 ft.

CARBON—Ohio Oil Co., Nothern Pacific 2, 11-7s-21e, dr 3755 ft.

CARTER—Montasota Oil Co., Zimmerman 1, 7-8s-58w, dr.

CASCADE—Lone Star, 13-21-3e, cave at 845 ft. U. S. Pet. Co., Miller 1, se 8-21-4e, run cas 1250 ft L B O'Neil, 11-22-4e, mvg in.

FERGUS—Melton Corp., sw 24-21n-17e, fsg 2700 ft.

GALLATIN—California Co., Ringling 1, 35-5n-7e, run cas, td 2038 ft.

GARFIELD—Montana Corp., making location on Crooked Creek structure.

GLACIER—Jos Drumheller et al, Yunck 1, nw 1-34-6w, plugg back from 2919 ft to shoot.

HILL—Jones Oil Co., Brown's Coulee 1, nw 32-34-14e, ur 15½-in at 1050 ft, dr 1100 ft. A. H. McFarland, sw 15-30-13e, co 2000 ft.

LIBERTY—Spuare Deal Oil Co., Federal Land Bank 1, se 1-32-7e, dr 3000 ft. Western

Nat'l Gas Co., Townsend 2, 22-37-4e, plug back from 2300 ft. Cypress Oil Co., 36-28-6e, abd.

LAKE—Missoulo Flathead Oil Pools Co., nw 31-21-20, repairs.

PETROLEUM — Minnesota-Flatwillow Oil Co., 2, sw 5-12-25e, cas landed and dtr res 1298 ft. Minnesota-Flatwillow, 3, se 5-12-25, dr.

PHILLIPS—Big Dome O. & G. Co., Bloomberg 1, ne 1-32n-32e, run cas 2455 ft.

PONDERA—Miller Bros., Bruins 1, ne 17-28-1w, rig. Midwest, Snortland 36, se 27-27-3w, dr 895 ft. Hammond et al, Katen 1, 24-26-1w, run cas 1701 ft. Butte Synd., Mauli 1, ne 15-29-1w sd 4801 ft. Valier-Wms Oil & Gas Co., making location.

RICHLAND—D. J. Carter, 11-22n-59e, location.

SWEETGRASS—Carter, Six Shooter, 17-3n-19e, dr 1100 ft.

TETON—Hawley et al, ne 15-29-1w, spd. L. B. O'Niel, 16-25-5w, delayed. Texas Prod. Co., nw 21-26-4w, dr 1925 ft. Mitchener et al, Rondas 1, 9-23-1w, dr 420 ft.

TOOLE—Monalta Oil Co., Ldt., Buckley 1, se 1-73-4w, fsg 1750 ft. Anaconda Pet. Co., ne 19-36-2e, dr 1200 ft. Mahan et al, Lee 1, 10-31-1w, cem 3350 ft. International Roy. Hold Co., Henry 1, sw 26-35-1e, dr 500 ft. C. H. Thompson, Thompson 1, 7-34-4e, dr 450 ft.

TEXAS GULF COAST

AUSTIN COUNTY—O'Hara et al's Ward 1, wo, ½-mi w Peters, td 2820 ft.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, dr 633 ft. Steele & Strickland's Lochridge 1, near Lochridge, dk.

CHAMBERS COUNTY—Pure Oil Co.'s Lost Lake 3, dr 355 ft gbo. Mayes 3, Lost Lake, completed for 960 bbls 23 gravity oil at 2797 ft. Chicago Oil Corp's Lawrence 1, 10 mi s Barbers Hill, sd 1185 ft. Layne et al's Fitzgerald 1, 1 mi s Barbers Hill, sd 2840 ft.

COLORADO COUNTY — Merrett et al's Zverck 1, 2½ mi e Ellinger, sd 1000 ft. Rich Oil Corp's Von Rosenberg 2, 2½ mi w Alleytown, sd 2825 ft. The Texas Co.'s L. A. Machemal 1, dr 1394 ft.

FAYETTE COUNTY—Kelley et al's Burke 1, 2 mi nw Flatonia, sd 500 ft. Moore et al's Kerr 1, Muldoon, sd 2485 ft. Magnolia's Gully 1, 4 mi n Fayettville, dr 3975 ft. National Oil Co.'s Hunger 1, 8 mi sw La Grange, dr 1900 ft gbo. Muldoon Oil Co.'s Kimper 1, Muldoon, sd 225 ft.

FORT BEND COUNTY—Gulf's Trone 12, Long Point, dr 4500 ft sand and shale. Moore 19, Moore's Field, dr 4578 ft shale. Grayburg Oil Co.'s Ransom 1, s Richmond, dr 3721 ft, shale.

HARRIS COUNTY—Humble's Simms-Smith 75 Goose Creek, td 5243 ft; Siadous 1, Mykawa, ru; Woodburn 1, 2 mi s Genoa, dr 5146 ft, sandy shale; Warren 6, Hockley, dr 3300 ft. Hammond et al's Brodt 1, s Sheeks, dk. York & Robertson's Garrett 1, 5 mi se Fauna, sd 1860 ft. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4055 ft. Rich et al's Highland Farms 1, Elena, dk.

JEFFERSON COUNTY—River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, sd 2840 ft. Gulf's Burrell 3, Fannett, dr 3180 ft, gbo; Junker 1, Fannett, dr 1900 ft, rock; Thomas 12, Fannett, dr 1500 ft, gbo. Westbury Oil Co.'s R. West 3, sd 2675 ft. Vacuum Oil Co.'s Broussard & Hebert 1, 9 mi se Fannett, dr 3500 ft, shale. Shell's Heisig 1, 2 mi n Hamshire, dr 6679 ft, shale. The Texas Co.-Houston Oil Co.'s Fitzhugh 1, Big Hill, ru, The Texas Co.'s Pipkin 2, Big Hill, dr 2977 ft, lime rock; Burrell 1, Fannett, dr 2515 ft, gbo and lime.

LIBERTY COUNTY—Humble's Sterling 6, Moss Bluff, ru. Pure's Liberty Investment Co. 1, Moss Bluff, dr 4680 ft, gbo and lime. Gulf's Boyt 2, Hankamer, rebuilding dk and working on rig; Weiser 1, Hankamer, ru. Harrison Oil Co.'s Quintette 4, N. Dayton, sd 4120 ft. Cranfill-Reynold's Company's Esperson 3, Esperson dome, oil showing sand at 2275 ft, preparing to test; Esperson 4, dr 675 ft, gbo; Vadjak 1, Esperson dome, ru.

ORANGE COUNTY—The Texas Co.'s M. H. Stark 1, Pt. Neches, dr 2765 ft, hard sand; Polk 1, Pt. Neches, ru. Gulf's J. H. Starks 1, Pt. Neches, dk; M. H. Stark 1, Pt. Neches, lcn. Galperin et al's Mansfield 1, 1½ mi ne Mansfield ferry, dk.

VICTORIA COUNTY—Humble Welder 1, 3 mi se Nursery, dr 4565 ft.

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BEAUMONT, TEXAS

WALLER COUNTY—Kirby Pet. Co.'s D. Vaughn 1, San Felipe, abn 3330 ft, cap rock.

WASHINGTON COUNTY — Fuchs et al's Torn 1, 14 mi sw Brenham, dr 1235 ft, shale. Brains et al's L. S. Smith 1, 4½ mi ne Gay Hill, dr 1400 ft, shale. Dekle et al's Calhoun 1, 4 mi e Quarry, sd 1060 ft. W. Gahee's Davis 1, sd 50 ft. Washington County Oil Co.'s F. C. Schwartz 1, lcn. A. W. Kollett's Harmel 1, n Brenham, ru.

WHARTON COUNTY—Hearte Oil Co.'s Brown 1, 5 mi s El Campo, sd 2810 ft.

SOUTH LOUISIANA

ACADIA PARISH—Yount-Lee Oil Co.'s Houssiere-Latrielle 7, Jennings, dr 6050 ft, sand. Crowley Oil & Mineral Co.'s 4, Jennings, stdg, 7563 ft.

ASCENSION PARISH—Gulf's United Lds. Co. 15, Sorrento, dr 4965 ft, shale. Triumph Oil Co.'s J. D. Lacey 2, 3 mi se Sorrento, sd 3325 ft.

CALCASIEU PARISH — J. O. Davis' Mimms 1, Lake Charles, sd 5600 ft. Shell's Miller est. 1, w of Lockport field, dr 6775 ft, shale. Wilfred Lahay's James 2, 3½ mi s Starks dome, sd 3380 ft.

CAMERON PARISH—The Texas Co.'s Calcasieu Lake B-5, E. Hackberry, fsh 4235 ft; Calcasieu Lake A-4, S. Calcasieu Lake dome, dk. Pure's Yount-Lee 7, Sweet Lake, preparing to set cas to test oil sand at 6360-81 ft. Shell's Watkins 11, Black Bayou, dr 1820 ft, sand and shale; Watkins 12, Black Bayou, dr 3475 ft, sticky shale; A. Marceaux 1, Mallard Bay, bldg dk. Yount-Lee Oil Co.'s Carter & Sweeney 1, e Old Hackberry prod., lcn; Mrs. F. Lacy 1, e of old Hackberry prod., lcn.

IBERIA PARISH—Gulf's State Z-10, Loreauville, abn 3590 ft. The Texas Co.'s Vermilion Bay A-4, dk. Jefferson Lake Oil Co.'s Lake Peigneur 2, dr 588 ft, cap rock.

IBERVILLE PARISH—Shell's Wilbert 3, White Castle, dr 5985 ft. Standard's Wilbert 3, Bayou Blue, dr 1925 ft, prep to test; Schwing 2, Bayou Blue, dr 2780 ft, sand; Schwing 3, Bayou Blue, capped piling.

JEFFERSON DAVIS PARISH—Vacuum's DeVilbiss 2, Roanoke, set one joint screen, prep to bail, sand at 4336-39 ft.

LA FOURCHE PARISH—Gulf's Stark 14, Thibodaux, abn 1266 ft; Stark 23, Thibodaux, abn 1600 ft. Texas Gulf Sulphur Co.'s Stark 14-A, Thibodaux, lcn; Stark 21, Thibodaux, dr 1170 ft, shale; Stark 24, Thibodaux, lcn.

PLAQUEMINES PARISH — Gulf's Morris & Rose 1, Spanish Pass, dk. The Texas Co.'s Garden Island Bay 2, stdg 795 ft. Humble's Cockrell-Moran 1, Lake Grande Ecaille dome, dr 2200 ft, gbo.

ST. MARTIN PARISH — Ohio Oil Co.'s Martin et al 3, Hager dome, fsh 4500 ft. The Texas Co.'s St. Martin Ld. Co. Fee 1, Hager dome, dr 4500 ft, sandy shale; St. Martin Ld. Co. Fee 2, Hager dome, dr sand and gravel at 510 ft. Freeport Sulphur Co.'s Belle Isle 3, abn in salt at 1510 ft; Belle Isle 4, ru.

ST. TAMMANY PARISH—St. Tammany Pet. Corp.'s Fritchie 2, dr 3025 ft, gbo.

TANGIPAHOA PARISH—Joan Dev. Co.'s Lake Superior Piling Co. 1, sd 3095 ft. Completion Oil Co.'s Kent 1, 36-1s-6e, sd 2540 ft.

TERREBONNE PARISH—The Texas Co.'s Lake Pelto B-2, lcn; Lake Pelto B-3, lcn; La. Ld. & Expl. Co. A-2, ru; Taylor Bayou B-1, r 1787 ft; Bay Coon Road B-2, well blew out while coming out of hole, td 790 ft, now preparing to deepen; Bay Coon Road B-3, bldg dk; Lake Barre A-2, dr 3550 ft, gbo; Timblier Bay A-2, lcn; Dog Lake Bayou B-1, td 1190 ft; Dog Lake Bayou B-2, lcn.

SOUTHWEST TEXAS

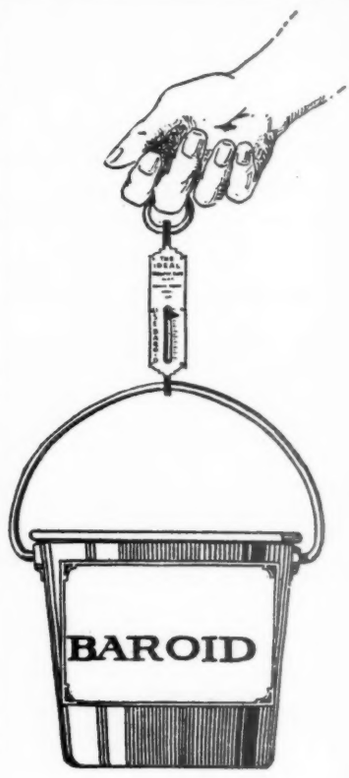
BEXAR COUNTY—Leon Creek Oil Co.'s A. Reininger 1, dr. Swift and Fisher's Beck 1, Yelvington tract, 10 mi e of San Antonio, sd, installing heavy type stnd rig.

BEE COUNTY—Mission Drilling Co.'s Ray 4, set surface cas at 250 ft.

BASTROP COUNTY—Broadneaux Oil Co.'s Roundas 1, sd at 1900 ft in shale. Harper et al Mitchell 1, sd. T. C. Hadley Kiel 1, dr 700 ft in shale. Howell et al's Weckham 1, sd at 1710 ft. Pacific Oil Co.'s Spooner 1, reported abn at 2420 ft.

BROOKS COUNTY—Amos Dinn's Garcia 2, std at 1200 ft. Houston Oil Co.'s Lassiter 1, re 4110 ft. G. W. French's Allen 5, lcn; Allen 6, dr.

CALDWELL COUNTY—J. W. Allen et



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al's G. H. Jackson 1, ru, cable tool at 2858 ft, to plug back to chalk. Joe Burner's B. R. Neill 1, lcn. Calahan et al's Willie Ellison 1, sd at 2596 ft in chalk. Germany's Dauchy 1, coreing at 1905 ft. Harper et al's Thomas 1, lcn. Radcliff et al's Cardwell 1, dr 750 ft in shale. Texas Co.'s Cude 1, td 1836 ft, set cas at 1801 ft, swabbed 135 bbls in 14 hrs.

DEWITT COUNTY—McIntyre's Van Roeder 1, dr 600 ft in shale.

DUVAL COUNTY—E. H. Buckner's (Sun) Peters 1, sec 161, dr 30 ft. Cooperative Dr. Co.'s Dinn 3, sec 454, lcn. Humble's Koehler 33, tested small amount of gas at 1703 ft, will deepen; Koehler 35, dr; Koehler 34, prod 10,000,000 cubic ft gas, cas set at 1796 ft. Magnolia Pet. Co.'s Hahl 7-B, prod 90 bbls at 2305 ft; Hahl 6, fsh at 5370 ft; Corbett 1, dr 4490 ft; Hahl 7, dr 530 ft. S. & O. Oil Co.'s Hahl 7, dk; Hahl 8, dr 1807 ft. Suladie & Peters & Jack's Walsh 1, dr 750 ft. Trapshooter Reilly's Hahl 1, spud in.

FALLS COUNTY—O. W. Killam's C. A. Jones 2, dr.

GONZALES COUNTY—Fort Bend Oil Co.'s Hamms 1, dr 3005 ft in shale. Burner's Miller Bros 1, sd for new boiler. Green et al's Dix 1, sd at 1425 ft. Hoffman et al's Burrer 1, reported tearing down. Finnell and Ealems' J. F. Robinson 1, dr 1340 ft, in chalk (3½ mi e of Waelder.)

GUADALUPE COUNTY—Empire Oil and Gas Co.'s No 1, lcn. Grayburg Oil Co.'s Wells 2, lcn. Gulf's Searcy Anderson 1, lcn; Tadlock 1, lcn. Humble's D. D. Baker 1, lcn; No. 2, lcn; Yates-Wilson 1, lcn. Magnolia Pet. Co.'s R. C. Appling 1, lcn. Miles and Adams' Zaboroski 1, sd. Sun Oil Co.'s James Manford 1, spud in. Simms-Penn Oil Co.'s Johnnie Manford 1, ru. Texas Company's Dallas-Wilson 2, sd; Lemmy Anderson 2, sd at 660 ft; Lemmy Anderson 3, sd; Lemmy Anderson 4, lcn.

GOLIAD COUNTY—Humble Oil & Ref. Co.'s Miller 1, 4 mi n of Goliad, dr. Mission Drilling Co.'s Ray 5, lcn, 1000 ft n and 250 ft w of No. 3; Ray 3, depth 4062 ft, pulling screen to drill deeper.

KLEBERG COUNTY—Humble Oil and Ref. Co.'s Flato 4, dr 6660 ft; Klerber 1, lcn.

JIM HOGG COUNTY—Alworth Stevens and Hild's Garza 1, dr. T. J. Conway's Palacios 2, dr 970 ft. Deep Rock Oil Co.'s Kelsey 1, sd to dr well for water supply. Geo. S. Marshall's Holbein 4, dr; Holbein 5, dr. Mag. Pet. Co.'s F. G. Martinez 1, prod 40,000,000 cu ft gas, cas set at 1914 ft. Randado Oil Co.'s Palacios 5, std at 100 ft. W. R. Shankle's Holbein 2, dr 1700 ft; Holbein 1 on pump, 50 bbls daily estimated.

JIM WELLS COUNTY—Magnolia Pet. Co.'s Chas. Cook 1, dr.

LA SALLE COUNTY—J. G. Nix's Coleman 1, sec. 66, std at 500 ft.

MAVERICK County—Rycade Oil Corp.'s Chittim 3, dr 5475 ft in blue lime; Chittim 4, dr 5350 ft in blue lime; Chittim 5, ru; Sullivan 4, dr 5235 ft in blue lime. The Texas Co.'s Bandera County 1, dr 2060 ft.

NUECES COUNTY—Trinity Drillers et al's Thompkins 1, dr.

SAN PATRICIO COUNTY—Houston-Gulf Gas Co.'s No. 3 Waelder, abn 5052 ft in sandy shale.

STARR COUNTY—Smith-Adams' G. B. Welch 1, std at 531 ft. Milam Dr. Co.'s R. Allen 5, dr. Texas Co.'s Guerra 4, share 305-D porcion 67, dr 697 ft, sand rock. U. S. Oil and Gas Co.'s Kelsey 1, porcion 76, std at 80 ft.

VAL VERDE COUNTY—Dyare Bros et al's Wilson 1, sd at 3625 ft. Producers et al's Everett 1, sd at 2625 ft. Val Vert Oil Corp.'s Bassett 1, dr 3000 ft.

WEBB COUNTY—Foster Barnsley's Webster 6, coreing at 2600 ft; Webster 8, dr at 1900 ft. Houston Oil Co.'s G. Benavides 2, lcn. Carson's Usher 2, Benavides, sec 1613, temp sd at 2513 ft. O. W. Killam's Bruni 12, set cas at 2353 ft; Billings 7, dr 1921 ft; Bruni 14, spud in. Livingston and Payne's Guerra-Ochoa 1, running cas to set at 1630 ft. J. J. O'Hern's Benavides 3, lcn; Valdez 1, set cas. Magnolia-Houston Oil Co.'s Benavides 2, lcn. Magnolia Pet. Co.'s Valdez 1, dk; C. Benavides 1, dr 2224 ft; M. Benavides 1, dr 5015 ft. Trapshooter Reilly Benavides 2, prod 40 bbls at 3076 ft, cas set at 3066 ft. Southern Oil Co.'s King-Harper 1, prod 10,000,000 cu ft gas, cas set at 1732 ft.

ZAPATA COUNTY—Blair & Acklen Trevino 1, plugged at 4020 ft, showed salt water and

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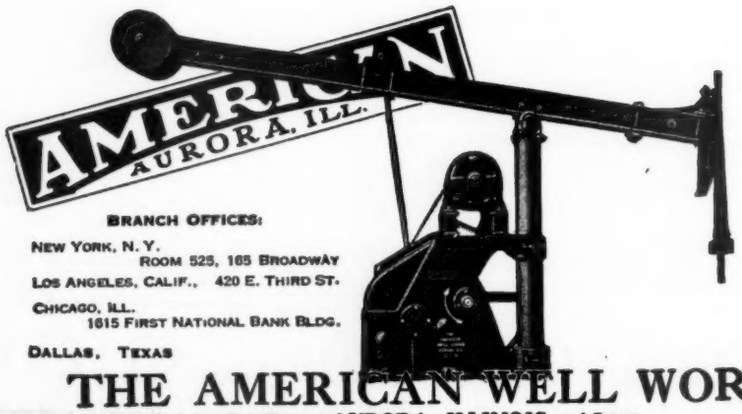

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oil. Trevino 2, dr 80 ft. Blankenship et al's Trevino 1, lcn. Buck and Coursey's Garza 1, std at 1474 ft. Duval Oil Co.'s (R. S. Owen), 1, prep to spud in; No. 2, spud in. Sam Evans' 1, 2 mi e of Muckleroy discovery well, setting up tools. Hill et al's Vela 1, dr, 280 ft. Killam-Duggan's Cuellar 6, prod 150 bbls at 1591 ft, cas set at 1284 ft; Cuellar 7, dr 100 ft. O. W. Killam's Cuellar 15, pumping 15 bbls oil, cas set at 1481 ft. Magnolia Pet. Co.'s R. G. Martinez 1, sec 6, dr. Marts and Beaven's Trevino 1, tested dry through drill stem at 1400-10 ft, will dr deeper. H. Muckleroy Jr.'s Trevino 3, swabbed 50 bbls at 1291 ft. National Oil Co.'s Adams 1, dr 470 ft. South Texas Production Co.'s Joe Jennings 5, reported abn and plugged at 2850 ft; Roy Jennings 1 plugging back to 1830 ft to set cas and made fresh water well, total depth 3324 ft; Joe Jennings 6, lcn. Santiago Pappas et al's No. 2 in Porcion 34, lcn.

MEXICO

Cia. Petrola Tampulijas, S. A., No. 1 in El Solidadito, survey Geurrero Area, dr 1730 ft in sand rock.

WEST TEXAS

Company, Well and Loctaion	Completions Initial Production Bbls.	Depth
GLASSCOCK COUNTY—		
Houston Oil Co. et al, McDowell 1,	*	2603
Penn Oil Co. et al, Schaffer 1.....	*	2580
IRION COUNTY—		
Pecos Valley Oil Co., Stocks 2....	*	1600
JONES COUNTY—		
J. H. Adsit et al, Swenson 1.....	†	1441
PECOS COUNTY—		
Landreth Prod Corp., University 1, ¶66½		951
Phillips Pet. Co., Southern Life 1..	*	1660
Shell Pet. Corp., University 1-B....	*	1663
Tidal Oil Co., University 1-C.....	*	1716
TAYLOR COUNTY—		
Mid-Continent Pet. Corp., Cody 1...	*	2538

ANDREWS COUNTY—Deep Rock Oil Co. et al's Ogden 1, dr 135 ft.

BORDEN COUNTY — Louisiana O. & R. Corp.'s W. L. Miller 1, dr 360 ft. W. A. Moncrief & Humble's Munger 1, ur 800 ft. Teas-Wheeler et al's Long 1, elev. 2516 ft, top salt 1030 ft, dr 2320 ft.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1-A, dr 2200 ft. Brewster Oil Co.'s Fee 1, fsh 1930 ft. E. L. Chapman et al's Skinner 2, dr 540 ft. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, elev. 3972 ft, show gas, dr sandy lime 3860 ft.

COKE COUNTY—Mid-Kansas O. & G. Co.'s Lackey 1, elev. 2152 ft, ur 5-in cas 4050 ft.

CONCHO COUNTY—Fred Spratt et al's Bryson 1, sd 380 ft. A. W. Turner & Guardian Oil Co.'s Brosig 1, sd 635 ft.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 8, top salt 1322 ft, dr 1350 ft.

CROCKETT COUNTY — California Co.'s Powell 3, spudding. Walter W. Donnelly & J. D. Young's Powell-Shannon 1, elev. 2661 ft, top salt 1125 ft, testing with 2000 ft OIH at 2543-56 ft. A. R. Eppenauer & West Texas Pet. Corp.'s Noelke 2, elev. 2545 ft, top salt 720 ft, ur 1125 ft. W. A. Moncrief's Todd 1, (Sec. 29) dr 455 ft. Taylor-Link Oil Co.'s Powell 3, elev. 2722 ft, top salt 1040 ft, fsh 2317 ft.

CULBERSON COUNTY—Hickey et al's Finley 1, elev. 3916 ft, sd 2275 ft. Scott & Dittman's Miller 1, elev. 4059 ft, sd 2885 ft. West Texas Oil & Explo. Co.'s McGregor 1, fsh 690 ft.

ECTOR COUNTY—Penn Oil Co. & Humble's Kloh 1, dr 1710 ft.

EL PASO COUNTY—Lane-Tex Oil Co.'s Malone 1, sd 1107 ft.

FISHER COUNTY—Culbertson Bros., Inc.-Mesa Oil Co. et al's Griffin 1, elev. 1842 ft, testing show oil in hole 3330-35 ft. Cranfill-Reynolds & Sun's Texas Cement 1, dr 1575 ft; N. B. Barrett 1, dk. Magnolia Pet. Co.'s Alice Lee 1, elev. 1827 ft, dr 2870 ft. Mid-Kansas & Phillips Pet. Co.'s Stephenson 1-A, show O&W 2430-35 ft, dr 2490 ft. Mid-West Explo. Co.'s Steele 1, dr 1620 ft. Henry Riley et al's Veatch 1, dr 1520 ft. Roeser-Pendleton, Inc., & Landreth Prod. Corp.'s Johnson 1, ur 8-in cas 2930 ft. Texas Co.'s Stephens 1-B, dr 2340 ft.

GARZA COUNTY — Emerald Oil Co.'s Bargsley 1, elev. 2542 ft, co after 2nd shot, td 2551 ft. Gulf Prod. Co.'s Street 1-D, elev. 2505 ft, top salt 770 ft, dr 4075 ft. Paul Steed et al's

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WEST TEXAS

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GLASSCOCK COUNTY—California Co.'s Currie 3, dr 1380 ft C. F. Jones 1, lcn. Daniels et al's Meek 1, dr 1010 ft. Kirby Pet. Co. et al's Baker 1, spudding; Phillips 1, elev. 2624 ft, top lime 2090 ft, storage, td 2268 ft. Landreth Prod. Corp. & Tidal Oil Co.'s Houston 1, rig. Lion O. & R. Co.'s Coffee 1, elev. 2607 ft, top lime 2055 ft, pumped 590 bbls oil 16 hrs, 2152-2240 ft. Mid-West Explo. Co.'s Edwards 1, elev. 2550 ft, cas off HFW 2825 ft. Schermerhorn Oil Co.'s Phillips 1, dr 2070 ft. Sun Oil Co.'s Phillips 1, dr 905 ft; Phillips 2, dr 200 ft. E. L. Smith Oil Co.'s Coffee 1, rig. Texas-State Oil Co.'s Edwards 1, elev. 2425 ft, sd 2461 ft. World Oil Co.'s McDowell 2-C, rig abn.

TOM GREEN COUNTY—Fitzgerald & D. A. Smith's Bennett 1, elev. 1792 ft, dr 2200 ft.

HOCKLEY COUNTY—World Oil Co.'s Ellwood 1, elev. 3363 ft, top salt 2157 ft, fsh 3224 ft.

HOWARD COUNTY—Meriwether Oil Co.'s Smith 1, sd 430 ft.

HUDSPETH COUNTY—California Co.'s University 1, elev. 5833 ft, dr 1910 ft. Geo. E. Richardson et al's Thaxton 1, spd and sd. Western States Oil Co.'s Gardner-Mosely 1, elev. 5086 ft, sd 3155 ft; Moore 1, elev. 5050 ft, sd 2760 ft.

IRION COUNTY—Banner Oil Co. & F. E. Webb's Nutt 1, pumping 15 bbls, 1359-72 ft. J. B. Crawford et al's Nutt 1, sd 770 ft. Brown & Fox's Tankersley 2, lcn. Carl G. Cromwell et al's Nutt 1, 475 ft. Fuhrman Pet Corp.'s Nutt 1, spudding. Kingwood Oil Co.'s Sugg 1, elev. 2334 ft, run 4½-in cas 7667 ft.

JONES COUNTY—J. H. Adsit et al's Swenson 1-A, elev. 1521 ft, ur 1510 ft. W. G. Clark et al's Miller 1, sd 2480 ft; Neuman 1, elev. 1826 ft, pump 10 bbl oil and 40 bbls water, 2525-36 ft, td 2550 ft. Mid-Texas O. & G. Co.'s King 1, dr 1190 ft. Sedgwick O. & G. Co.'s Brown 1, dr 1530 ft. F. E. Shaheen et al's King 1, dr 970 ft.

LOVING COUNTY—Humble O. & R. Co.'s Kloh 1, rig. Independent O. & G. Co.'s Wheat 1, lcn. Lockhart & Co.'s R. L. Allen 3, lcn. Hazell 2, elev. 2705 ft, dr by tools 3980 ft; W. W. Hubbard 3, dr 330 ft; Hubbard 4, rig.

MENARD COUNTY—Barnett et al's Callan Ranch 2, dr 395 ft. J. L. Duffy & Carl Cromwell's Winslow 1, elev. 2142 ft, ur 2960 ft.

MITCHELL COUNTY — Teas-Wheeler et al's Radford 1, elev. 2223 ft, top salt 667 ft, top lime 1365 ft, ur 4183 ft.

NOLAN COUNTY—Phillips Pet. Co.'s Plunkett 1, ur 3720 ft.

PECOS COUNTY—California Co.'s University-Landrum 1, bad hole 230 ft. Continental Oil Co.'s University 1, elev. 2723 ft, top salt 950 ft, top lime 1590 ft, cem cas 1853 ft; University 1-A, dr 585 ft. Karl Crowley et al's Heiner 1, elev. 2548 ft, sd 1302 ft. Cowboy Evans et al's Pecos Valley 1, elev. 2445 ft, top salt 1215 ft, testing 900 ft. OIH 1556-72 ft. Gibson & Johnson's Grace 1, elev. 2866 ft, top salt 890 ft, sd 1793 ft. Gulf Prod. Co.'s University-Hale 1, machine, dr 150 ft. Henshaw Oil Corp.'s J. A. McDonald 1, lcn; University 1, 2, 3 and 4, lcns. Henshaw Bros. et al's University 1, lcn. Independent O. & G. Co. and Rowan-Tong's J. T. McDonald 1, elev. 2484 ft, top salt 725 ft, top lime 1400 ft, cemented cas 1600 ft, shut in for storage, td 1605 ft; McDonald 2, machine. Jayhawk Pet. Co.'s Price 1, cas trouble 100 ft. J. L. Kennedy et al's M. R. Kennedy 1, lcn. Landreth Prod. Corp.'s McDonald 1, machine; University 2, 1-C and 1-D,

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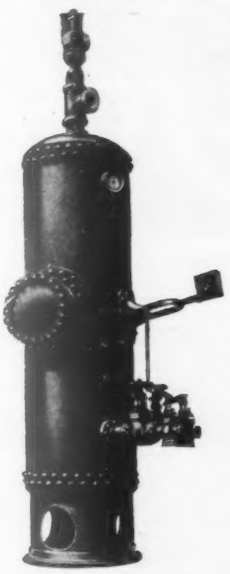

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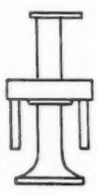
Houston, Texas



lcns. Landreth & World Oil Co.'s University 1-B, (Sec. 13) elev. 2526 ft, top salt 850 ft, making 15 million ft sulphur gas dr pay 1570-98 ft; University 2-B, elev. 2545 ft, machine. Mauch & Krogen's Holmes 1, sd 1442 ft. W. A. Moncrief et al's University 1, (Sec. 27), elev. 2694 ft, salt 1090 to 1185 ft, dr 1305 ft; University 1, (Sec. 13) elev. 2560 ft, top salt 860 ft, top lime 1330 ft, showing oil and gas, co 1717 ft; University 2, (Sec. 13) lcn; T. F. Clarkson 1, (Sec. 84) machine. R. E. Moore et al's Arnold 1, ur 1150 ft. Geo. B. Morgan et al's Toppett 1, spd and sd. Toberg 1, pump 15 bbls oil 355-70 ft. J. D. O'Mara et al's Bennett 1, fsh 875 ft; Streety 1, sd 825 ft. S. B. Owens et al's Masterson 1, lcn. Pecos Crude Oil Pur. Co.'s Pecos Valley 3, elev. 2449 ft, top salt 1115 ft, co with 1500 ft. OIH 1610-1855 ft. O. J. Perren et al's L. Peterson 1, elev. 2439 ft, top salt 990 ft, dr 1855 ft. Phillips Pet. Co.'s Courtney-Pryor 1, elev. 2951 ft, dr 3550 ft. M. M. Rowan et al's Sherbino 1, elev. 2884 ft, top salt 975 ft, dr 1175 ft; University 1, (Sec. 25) elev. 2764 ft, dr 860 ft. Schumaker et al's Williams 1, elev. 2980 ft, ur cas 1485 ft. Shell Pet. Corp.'s Jackson 1, elev. 2447 ft, top salt 1020 ft, dr 2025 ft; University 1-C, elev. 2531 ft, top salt 845 ft, flowing 480 bbls daily via 3/8-inch choke 935-61 ft. Sun Oil Co.'s University 2, (Sec. 8) spudding; University-Carlson 1, (Sec. 34) spudding; University-Toler 1, (Sec. 25) machine. Taylor-Link Oil Co.'s University 3, dr 420 ft; University 4, dr 400 ft; University 5 and 6, lcns. B. J. Spikes et al's Brown 1, elev. 2387 ft, top salt 740 ft, sd 2258 ft. Texas Co. & Phillips Pet. Co.'s Campbell 1, elev. 2441 ft, top salt 1010 ft, fsh 2050 ft. Tidal Oil Co.'s J. A. McDonald 1, spudding; McDonald 2, machine. Tidal & Tower-McKanna's University 1-B, (Sec. 3) elev. 2470 ft, salt 790-800 ft, cem 8-inch cas 1887 ft. Tower & McKanna. Inc.'s University 1, elev. 2715 ft, top salt 895 ft, top lime 1600 ft, sulphur water 1775-85 ft, cem cas 1840 ft; University 1, (Sec. 14, Blk. 16) dr 325 ft. Transcontinental Oil Co.'s University 1, elev. 2552 ft, top lime 1035 and 3315 ft, sd 4420 ft. Trees Oil Co.'s Trees 2, dr 705 ft; Trees 2, lcn. Clayton Williams et al's Sanford 1, elev. 2509 ft, sd 1526 ft. R. D. Webb et al's Fee 2, cem cas 510 ft. World Oil Co.'s University 1, (Sec. 31) elev. 2508 ft, dr 800 ft.

PRESIDIO COUNTY—Brite Prod. Co.'s L. C. Brite 4, sd 569 ft. C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, sd 4610 ft. TP Coal & Oil Co.'s Bogel 1, dr 1055 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 131, dr 8273 ft; University 151, sd 6370 ft; University 1-C, dr 3880 ft; University 2-C, dr 5130 ft. Henshaw-Thomas & Brann's Hughes 1, lcn. Skelly Oil Co.'s Grayson-University 5, dr 950 ft.

REEVES COUNTY—H. T. Hansford et al's Williams 1, spd & sd. Slack & Fink's Brooks-Huling 1, sd 500 ft. Southern Crude Oil Pur. Co.'s Kloh 1-A, elev. 2784 ft, dr 1845 ft. D. R. Thompson et al's Eddins 1, sd 5658 ft. Lee O. White et al's Mrs Lizzie Hershenson 1, elev. 3244 ft, sd 2625 ft.

RUNNELS COUNTY—Herbert Oil Co.'s Currie 1, dr 2735 ft.

SCHLEICHER COUNTY—McKavitt Oil Co. & Cromwell's Tisdale 1, elev. 2155 ft, sd 3500 ft. Phillips Pet. Co. et al's J. A. Whitten 1, elev. 2333 ft, cased off show O&G, testing cas 5050 ft. Underwood Oil Co.'s Tisdale 1, spd and sd.

SCURRY COUNTY—J. G. Armand & Camp Spring O&R Co.'s Quinn 1-A, dr 445 ft. Cottingham & Briscoe's Truss 1, elev. 2664 ft, top salt 1050 ft, dr 1630 ft. R. B. Pender et al's Davis 1, elev. 2208 ft, top salt 445 ft, sd 3800 ft. Texas-Canadian Oil Co.'s Mooar 1, lcn.

SUTTON COUNTY — Phillips Pet. Co's Holman 1, elev. 2277 ft, top lime 2317 ft, fsh 6633 ft. L. G. Priest et al's Allison 1, elev. 2238 ft, bailing oil and drilling lime, 3632-92 ft.

TAYLOR COUNTY—J. B. Dungan & Shell Pet. Corp.'s Davidson-French 1, dr 1780 ft. J. B. Jameson et al's Webb 1, elev. 1905 ft, sd 4929 ft. C. M. Root et al's Martin 1, dr 3005 ft.

TERRELL COUNTY—Big Bend Oil Corp.'s Bassett 1, elev. 2396 ft, sr 12½-in cas 1155 ft. Keck-Pecos Oil Trust's Hamilton 1, elev. 1733 ft, sd 2635 ft. Mrs. J. B. McPhee et al's Sam Belt 1, sd 880 ft. Milham Corp.'s Bassett 1, elev. 2270 ft, sd 5350 ft.

UPTON COUNTY—Prairie O&G Co.'s Mc-

Heat Treatment of Steel
(Continued from page 35)

tinguishes the two, so that the toughness or shock value of steels may be exactly tested.

It must be remembered, however, that test pieces are machined from small standard size pieces, and that on account of the effect of mass, larger pieces of steel do not show the same impact value as smaller parts made of the same steel, but allowance must be made, according to massiveness and effectiveness of heat treatment, in larger pieces than that used for test.

Impact value is an important test in many parts used in the field. Fish tail bits, standard tool drill stems, drilling jars, drill collars, standard tool bits and bit pins, shafts, chain—in fact, all moving parts, or parts subjected to load and shock require high impact value and tests on the impact machine are of considerable value in ascertaining this physical quality of steel.

High yield point, high reduction and elongation always accompany high impact value. A high carbon steel, hardened, breaks quite readily, showing low impact value, but when drawn at say 1000°F., its impact value increases. But, the yield point affects impact value, also—high yield point steels showing correspondingly high iimpact values when treated to secure the same. Consequently the alloys showing higher yield points than carbon steels, will produce higher impact values when treated to secure the same.

As a measure of brittleness, the impact machine is of the utmost value.

Impact machines are made in several types—the Izod, Charpy, Guillery and Olsen, all of which employ the same principles, but which have varying designations. The machines most used today are those named above, but impact tests have not been standardized, as yet.

It might be argued that spring steel and spring temper might produce high impact value, but such is not the case for a spring must be left hard enough to return to its original shape, which is too hard for high impact value in the impact testing machine. Springs absorb shock, to be sure, but the design must be of such section and length, whether of the leaf or coil type, as suits the load and speed of loading, to prevent break in service. Spring design is very definite in this respect, as well as in heat treating, so as to utilize the best steels.

The same steel used in springs, however, can be treated to secure high impact value, which means that the final draw or tempering must be higher than that used in securing spring temper.

Fatigue

When a steel is stressed beyond its elastic limit, its internal structure is modified materially, setting up a fatigue condition. Even though it may not break when stressed beyond its elastic limit, it may snap off in service, tomorrow, or next week, without apparent cause, although fatigue is readily detected in a fracture.

This frequently occurs in drill pipe used in hard work. All steels, treated and untreated, are subject to fatigue.

Steel in a fatigued condition can be partially restored by heat treating, consisting of normalizing, heating to above Ac, quenching and then drawing to secure the desired physical qualities.

While a plain anneal will partially restore fatigued steel, also, annealed steel can never be as strong as it is in the heat treated state, for annealing sets up the weaker coarse grain, while full treatment imparts the fine velvet grain necessary for strength.

Fractured surfaces of fatigued steel show a characteristic always known, so that when stressed beyond its elastic limit and tensile strength, and broken, the cause is always apparent. Drill pipe is particularly subject to this type of fracture.

Machineability

In the manufacture of many parts, machineability has considerable to do with heat treatment, in that when a part is to be machined after final treatment, the part must be soft enough to cut readily; or, where a part must be hard, it must be machined before final hardening. All this is subject to close control.

Average steels can be machined below 300 Brinell, but for fast machining, the hardness may be taken well below this figure. Machineability, however, does not depend entirely upon hardness, but depends also upon the size and shape of grain. It most generally occurs that treated forgings and bar stock may be machined more readily than untreated for the former are made uniform.

It frequently happens that the cost of heat treating is more than offset by reductions in machining costs, especially when the parts made are such that machining can be done while the part is soft.

Heat treatment of the red hard alloy steels, such as high tungsten steel, is rather difficult due to the high temperatures involved. Anenaling is done at temperatures ranging around 1600°F., and at that temperature, the steel must be held long enough to insure adjustment and grain uniformity, a matter of several hours, followed by slow cooling, to prevent hardening, using lime or a similar covering.

For hardening, it is heated slowly to 1500°F., and then quickly from that temperature up to 2250°F., for intricate pieces, such as milling cutters, and up to 2400°F. for simpler pieces, when it is quenched by either cooling in air—it being self hardening—or by immersing in oil.

After this quench, this class of steel is treated for secondary hardness by heating to 1000-1100°F., and then cooling in air, the duration of heat corresponding to the required properties.

These high quenching temperatures naturally set up tendencies to fracture upon quenching, due to the greater expansion at high temperature, hence this class of steel requires maximum skill in heat treating, together with adequate equipment.

Combinations of furnaces of various types are necessary. As strange as it may seem, pyrometric control has not reached the perfection in high temperature work necessary for hardening high speed steel, and much of this work is done by skill, rather than by control with the pyrometer, although the better manufacturers utilize control.

Cost of Heat Treating

The cost of heat treating depends entirely upon the volume of work done and the fuel cost. Where the pieces are large, and fuel cost is say the equivalent of fuel oil at $1.50 per barrel, the cost of treating may run as low as three dollars per ton. Where other conditions prevail, such as intermittent work in lower volume, higher fuel cost, the cost may run as high as $100 per ton.

In electric furnace work, the cost of treatment depends largely upon the cost of power; the range in this work may be as low as $6.00 per ton, on up to $150 per ton.

Where quantity production methods are used, all types of furnaces may be made continuous in that the pieces may be fed in mechanically, heated gradually to the required, and let slide into a quenching bath, without manual labor. For instance, in treating ball bearing ball blanks, the blanks are fed into an electric furnace on a carrier chain, gradually heated to quenching temperature, and then are rolled out, dropping steadily into a deep water quenching bath. This type is fitted with a hopper into which the balls are dumped out of boxes and fed automatically on to the chain carrier, and in the bath, a wire basket catches the balls, which are lifted out with a crane at intervals.

Thus, just as elaborate equipment may be profitably installed as the work requires. From a small plant costing say $500, the investment may run into hundreds of thousands of dollars.

(THE END)

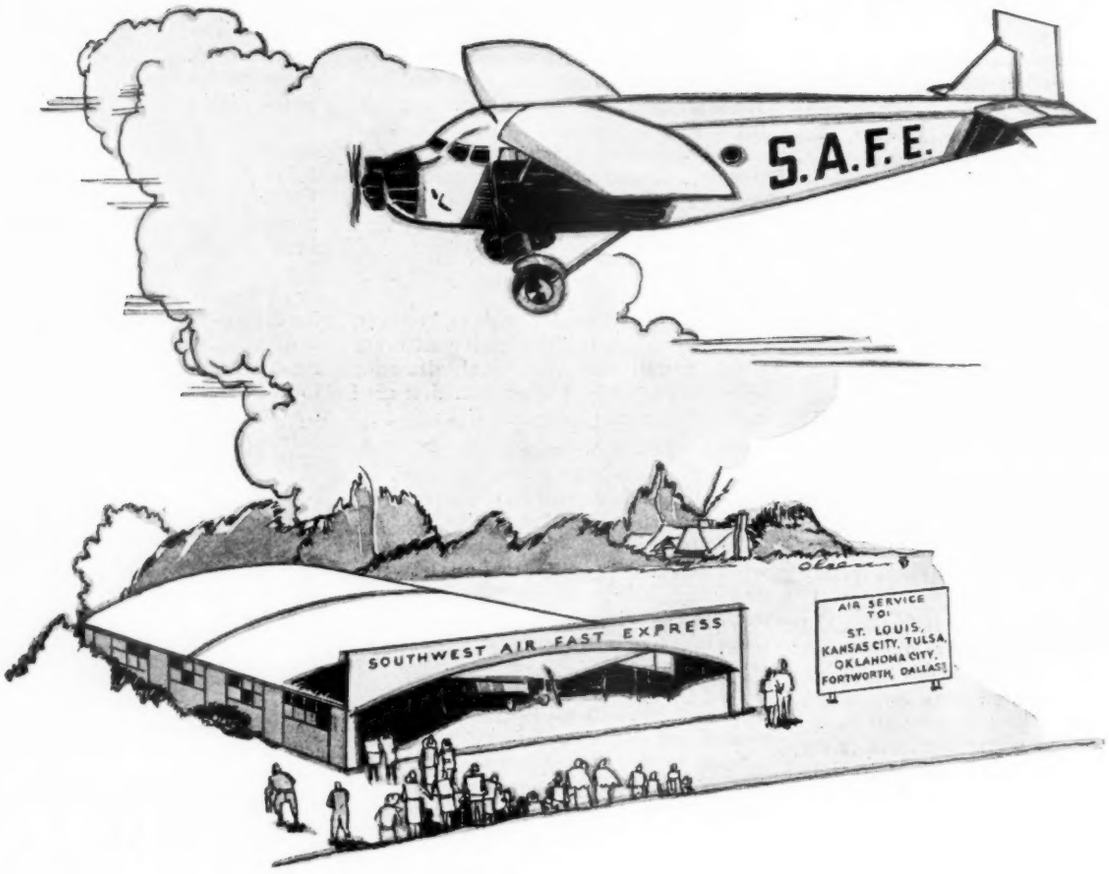
Quatters 1, elev. 2658 ft, top salt 1415 ft, dr 2560 ft.

VAL VERDE COUNTY—Dyar Bros. et al's Wilson 1, elev. 2115 ft, sd 3255 ft. Producers Oil Co. et al's Everett 1, sd 2525 ft. Phantom Oil Co.'s Ingram 1, dk. Valvert Oil Corp.'s Bassett 1-A, elev. 2069 ft, sd 4009 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 1, elev. 2443 ft, top salt 760 ft, set cas 1300 ft. Continental Oil Co.'s Sealy 2-A, elev. 2611 ft, top salt 1088 ft, top lime 2280 ft, making 2 million ft gas, co 2415 ft. C. C. Dorr et al's Costley 1, spd and sd. Cranfill-Reynolds Co.'s Robeson 1, dr 710 ft. Gulf Prod. Co.'s Hutchings 2, elev. 2655 ft, top salt 1240 ft, top brown lime 2250 ft, flowing 40 bbls oil, dr 2990 ft; O'Brien 6, elev. 2659 ft, top salt 1068 ft, top lime 2304 ft, made 20 million ft gas, 2600 ft, dr with show oil 2704 ft; Wristen 3, dr 755 ft. L. C. Harrison et al's Writen 1, dr 185 ft. Penn Oil Co. & Atlantic Oil Prod. Co.'s Bennett et al 1, elev. 2571 ft, top brown lime 2205 ft, flowing oil and gas by heads, dr pay 2348-69 ft. Shipley Oil Corp.'s Lee Monroe 1, sd 520 ft. Tex-Oil Prod. Co.'s Redman 1-A, dr 825 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown et al 2, top salt 1300 ft, top lime 2415 ft, sd 2420 ft. Continental Oil Co.'s Morton 1-A, elev. 2740 ft, top lime 2627 ft, flowing 20 bbls oil per hr, 10 per cent water, 3001 ft. Liner Drl. Co. et al's Campbell 1, elev. 2884 ft, top salt 1155 ft, sd 2005 ft. Shell & Llano Oil Co.'s Scarborough 7, elev. 2977 ft, top salt 1355 ft, dr 2880 ft.

XUM



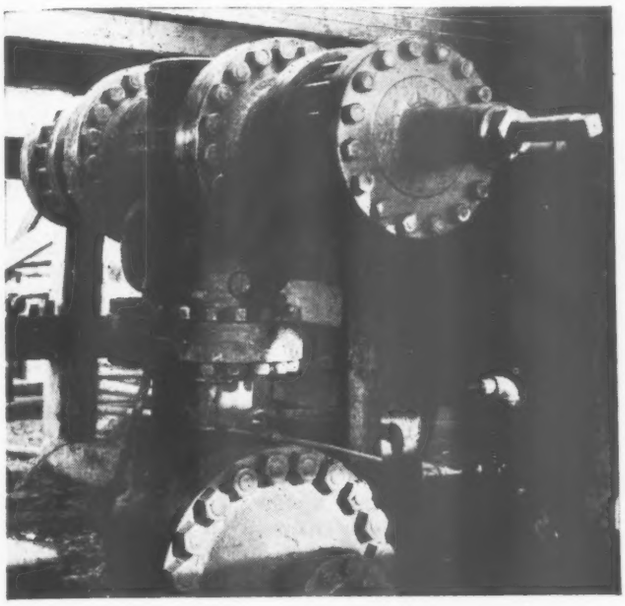
Just as in travel the successful oil man is satisfied only with the fastest form of transportation and the safest type of plane—so in protecting his wells does he insist on the speediest and safest method of cementing. That method, as every operator knows, is the Halliburton method.

HALLIBURTON

OIL WELL CEMENTING COMPANY

DUNCAN, OKLAHOMA

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



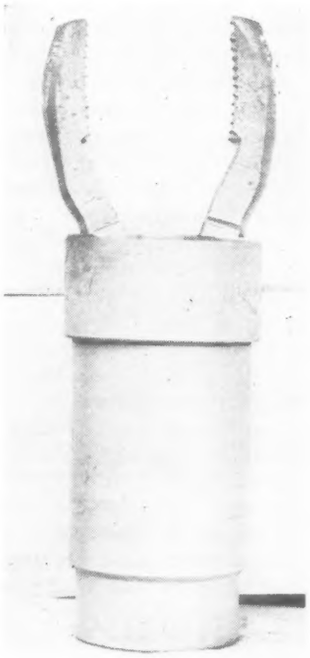
Cameron Blowout Preventer

Blowout Preventer

CAMERON IRON WORKS

The accompanying illustration of the Cameron Iron Works 12½-inch steam operated blowout preventer shows a set-up on Mission Drilling Company's Fox 1 well, in the Refugio townsite field, Refugio County, Texas. This well made 400 barrels of oil with a 1350-pound rock pressure when completed.

This most recent blowout preventer product of Cameron Iron Works, Houston, is made to withstand greater pressures with more safety. It incorporates improved features of design and construction in that greater pressures are handled with a wider margin of safety in a shorter interval of time. The rams inside the blowout preventer, instead of being closed by hand, as in the old-style blowout preventer, are closed by pressure supplied through a steam line, compressed air or pressure supplied from any gas line adjacent to the well carrying pressures from 150 pounds up.



After the rams have been closed by the application of pressure they can then be locked in position by the hand application of a large set-screw built in for that purpose, thus relieving the necessity for maintaining pressure and depending solely on the pressure supply.

This blowout preventer is operated by the turning of a valve and is instantaneous in action.

More information may be had from Cameron Iron Works, Houston.

Rotary Bit

SOUTHWESTERN TOOL COMPANY

Western Reese Bit

Southwestern Tool Company, 3303 Cherry Avenue, Long Beach, California, is now manufacturing and distributing the new Western Reese bit. While embodying some old bit principles it carries a departure in design.

The cutting blades are set on an angle to the radial, giving a slicing action instead of the drag action of the fishtail type of bit that uses the radial blades. This design offers a cutting instead of a scraping action. The arrangement of the blades offers a large amount of cutting edge.

Another new feature of the Western Reese Bit is the arrangement of the reaming edges of the bit to prevent binding in the hole and to maintain the hole to gauge.

This bit is made in sizes from 4¾-inches up.

Further information may be secured by writing the above address.

Improved Screw Grab

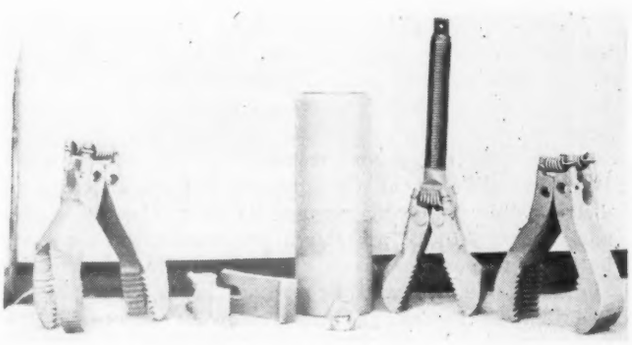
BAKER OIL TOOLS, INC.

Baker Oil Tools, Inc., Huntington Beach, California, offers a new and improved type screw grab, a product of the Marvel Fishing Tool Specialties, whose entire line has recently been acquired for both manufacturing and distribution by Baker Oil Tools, Inc.

The new screw grab is ready for the market after having been re-designed and strengthened. The accompanying illustrations show this grab ready for installation on the drill pipe and also in its component parts, with various types of jaws. At the left in the latter illustration is shown the forked type of jaw; next, laying down, is the short clam type; standing, next to the outer barrel, is the straight type of jaw; to the right is the clam type, with wicker.

These various types are designed to take care of requirements in fishing for flat fragments, picking up fish-tail bits, nuts, and the like.

This screw grab is connected by the proper size of sub to the drill pipe size. When it rests on the fish, the weight of the drill



Baker Screw Grab—Assembled and Parts

pipe will collapse the jaws of the grab by forcing the threaded stem up into the slip nut. After the fish has been caught, a tighter grip is taken on it by rotating the drill pipe to the right until the proper grip has been obtained.

The Baker Marvel screw grab is being made in all sizes to order, up to and including sizes to fit a 16-inch casing, and with an O. D. spread of the jaws to approximately 18⅝ inches.

More detailed information can be secured from Marvel Fishing Tool division, Baker Oil Tools, Inc., 2951-59 East Slauson Avenue, Huntington Park, California.

NEW MANAGER NAMED

L. W. ROWSEY

Announcement is made of the appointment of L. B. Rowsey of Tulsa as manager of Smith Separator Company, manufacturers of the Smith oil and gas separator and distributors of other well-known oil industry products. Mr. Rowsey has been connected with the Smith Separator Company for the last six years in varying capacities in the accounting, purchasing and sales departments. Prior to his being made manager of the company he was assistant to the vice president and assistant sales manager.

There will be no change in the policy of the company as branch offices and warehouse stocks will be maintained as heretofore at strategic points in the Mid-Continent and in California territories. General offices of the company are in Tulsa and district offices are maintained at Fort Worth, Houston and Midland, and Pampa, Texas; Shreveport, Louisiana; Wichita, Kansas; Casper, Wyoming, and Los Angeles, California.

In addition to Smith oil and gas separators the company also manufactures the Ever-Ready Protector (tubing catcher) and the Waters water gauge cock and distributes in the Mid-Continent the products of Fisher Governor Company, Reed Air Filter Company, Victaulic pipe couplings and Homestead refinery valves.

JACK DODSON

Jack Dodson has recently been appointed field salesman in the Los Angeles Basin fields for National Tool & Metals, Inc., of Torrance, California. His work will primarily be along the diamond sub-setting and hard facing angles, specializing on Drillite and Anglite. Dodson's service in the oil industry dates back to 1900, when he was located at Corsicana, Texas, and covers the capacity of show owner, salesman and inventor.

HYDRAULIC EQUIPMENT

Hydraulic Equipment Corporation, designers and manufacturers of a line of hydraulic equipment for the oil industry, has recently been organized with offices at 1011 Marine Bank Building, Houston. Charles H. Lane is president, Charles H. Reynolds is vice president and M .A. Beurlot is secretary and treasurer of the new company. Hydraulic Equipment Corporation will manufacture and distribute the following items in its line: Hydraulic plugs, packers, whipstocks, portable lifting outfits, top lift pumps, bottom lift pumps, screen cleaning outfits, steam driven hydraulic pumps, hydraulic control heads, brake devices, throttle valves, casing cutters, blowout preventers, pipe tongs, coring devices, liner extractors and a number of other pieces of hydraulic equipment.

ON WORLD TOUR

W. W. Cole, manager of foreign sales for Byron Jackson Company, sailed August 19 from Los Angeles on the President Polk for Japan, the first leg of a round-the-world tour visiting the leading oil fields of the world. From Japan he will go to Singapore, Burma, India, Irak Netherlands, and thence to South American fiields. Side trips to oil producing territories as Borneo, Sumatra and Java will be made, with the entire trip being devoted to studying first hand working conditions, operation facilities and equipment required in each of the countries. His work will also include inspection of Bettis installations in the various fields, Bettis rubber protectors being a product of the Patterson-Ballagh Corporation in which the Byron Jackson Company has a substantial interest. Cole's field experience and acquaintance in the industry is extensive, he having been one of the origial organizers of the Craig Oil Tool Company, one of the first concerns to participate in the recent Byron Jackson Company merger.

BREWSTER STORE AT HOUSTON

The Brewster Company, Inc., of Shreveport, Louisiana, announces the opening of a store and warehouse at Houston. E. B. Franklin is in charge as district manager, while C. A. Ricou, is manager of the store. The Brewster Company manufactures well-known oil specialties, best known of which are the Perfection Core Barrel and the Brewster A. P. I. Tool Joints. Other products are drill collars, fishtail and special gumbo bits, special rock bits, and cutter heads for both soft and hard formations.

NAYLOR OFFICE AT HOUSTON

Naylor Pipe Company, Chicago, announce the opening of a new sales office at 601-3 Post-Dispatch Building, Houston, and the appointment of E. C. Kirby as district sales manager in Texas and Louisiana, with headquarters at the new Houston office. He will handle the complete line of Naylor line pipe for oil, air, water and gas.

PEDEN-WILSON MERGER

Announcement was made September 1 of the purchase of the E. L. Wilson Hardware Company of Beaumont, Texas, by Peden Iron & Steel Company, Houston. All of the assets of the former company were involved in the deal with the exception of real estate holdings.

The consolidation of these two concerns, E. L. Wilson Hardware Company being more than 50 years old and Peden Iron & Steel Company nearly 40 years old, results in the largest hardware and supply house in the Southwest, the combination having assets of more than $6,000,000.

The wholesale warehouses at Beaumont and Houston and the retail store at Beaumont, formerly operated by E. L. Wilson Hardware Company, have been leased by Peden Iron & Steel Company, and on September 3 these three establishments were opened to be operated as heretofore as the E. L. Wilson Hardware Company, with the former Wilson organization intact. Virgil Keith is general manager, George Rose, is assistant manager and sales manager, C. L. Berly is office manager, Raoul Mueller is purchasing agent, and C. H. Hoskins is manager of the Houston house.

All of the former E. L. Wilson Hardware Company stockholders have become Peden Iron & Steel Company stockholders. E. G. Edson, formerly president and general manager and Virgil Keith, formerly a vice president of E. L. Wilson Hardware Company, have been elected directors of Peden Iron & Steel Company, and both will continue with the organization.

American Hammered Piston Rings

Individually cast, mechanically hammered to give lasting tension, particularly designed and adapted for Oil Field and other severe service.

Endorsed and used as Factory Equipment by

Ajax Iron Works - - - - - - - - Corry, Pa.
Bruce-Macbeth Eng. Co. - - - Cleveland, Ohio.
Bovaird & Seyfang Mfg. Co. - - Bradford, Pa.
Brandford Supply Co. - - - - Bradford, Pa.
Cooper-Bessemer Corp. - Mount Vernon, Ohio
Chicago Pneumatic Tool Co. - New York, N. Y.
De La Vergne Machine Co. - Philadelphia, Pa.
Franklin Valveless Eng. Co. - - Franklin, Pa.
Ingersoll-Rand Co. - - - - New York, N. Y.
McIntosh & Seymour Corp. - - Auburn, N. Y.
Munice Oil Engine Co. - - - - Munice, Ind.
National Supply Co. - - - - Toledo, Ohio
Pennsylvania Pump & Compressor Co. Easton, Pa.
Power Mfg. Co. - - - - - - - Marion, Ohio
Jos. Reid Gas Eng. Co. - - - - Oil City, Pa.
Sullivan Machinery Co. - - Michigan City, Ind.
Titusville Iron Works - - - - Titusville, Pa.
Wilson Snyder Mfg. Co. - - - Pittsburgh, Pa.
Worthington Pump & Mach. Corp., New York, N. Y.

Look for the BALL POINT HAMMER MARKS *inside the ring*

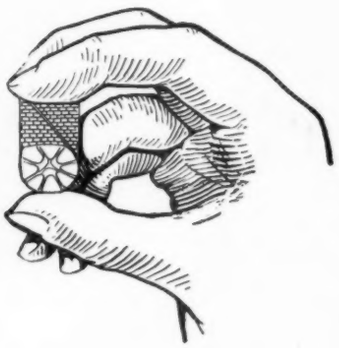
May be obtained from the above companies, or their selling agents, in standard sizes or oversizes.

Rings for any engine or compressor not listed above can be obtained direct from us.

The American Hammered Piston Ring Co. Baltimore, Md.

Packing that lets the rod run free.

Daniel's P. P. P.



An oil field drill or pump needs every pound of energy available. It's a waste of power and fuel to drive a rod against a heavy packing brake. No packing in the world can stand it for any length of time. As a result, everything stops until replacements can be made.

You won't find that sort of trouble with Daniel's P.P.P. in the stuffing box. It is built with sliding wedges and a yielding cushion to take care of highest heat and pressures. It cannot maintain a steady grip on the rod and therefore will not bind.

P.P.P. gives extremely long service under hardest conditions, and keeps cylinders tight at all times. To be relieved from packing annoyance and delay at a critical time, pack with P.P.P. — the harder the work, the better its record.

If you have never used P.P.P. send us details of service requirements and size. Our nearest distributor will promptly forward a supply for trial.

"Everything in rubber for the oil field"

QUAKER CITY RUBBER CO.

WISSINOMING, PA.

Branches

NEW YORK CHICAGO
PITTSBURGH SAN FRANCISCO

Squeaks from the Bull Wheel

"Well, what's your alibi for speeding 60 miles an hour through the residential section?"

"I had just heard, your honor, that the ladies of my wife's church were giving a rummage sale, and I was hurrying home to save my other pair of trousers."

"Case dismissed."

My girl says she thinks I'm a wit.
Well, she's half right.

In the days before oil was discovered in West Texas, a traveling man stopped for the night at a dry-land ranch near Wink. As he discussed the affairs of the country with his host he became more and more puzzled as to how the little ranch paid its way. At last he ventured the question: "How in the world do you make a go of things at all?"

Indicating the hired man, who was sitting at the far end of the supper table, the host replied: "You see that feller there? Well, he works for me and I can't pay him. In two years he gets the ranch. Then I work for him till I get it back."

Rather nervously the little tailer walked up the steps and rang the bell of the mansion.

"Is Mr. Gerald Lastword in?" he asked the man who answered his summons.

"Yes, sir. Will you come in?" the footman invited. "Mr. Gerald is in the library."

"Thank goodness," murmured the little tailer fervently. "I am going to see my money at last."

But the footman had overheard the remark.

"Oh, don't make that mistake," he said. "If Mr. Gerald 'ad any money, sir, 'e wouldn't be in, believe me!"

An English cub reporter, frequently reprimanded for relating too many details and warned to be brief, turned in the following:

"A shooting affair occurred last night. Sir Dwight Hopeless, a guest of Lady Panmere's ball, complained of feeling ill, took a highball, his hat, his coat, his departure, no notice of his friends, a taxi, a pistol from his pocket, and finally his life. Nice chap. Regrets and all that."

"Are you going to put in an oil burner for your furnace next winter, as you were talking?"

"No. I get so many motor car and other circulars in the mail now that I believe I can heat the house with them."

"Dat doctah sure am a funny man."

"How come?"

"Made me swallah two cartridges filled with powder, and then tell me I shouldn't smoke. As if Ah would!"

"Hello, Mame."

"G'morning, Bess."

"Say, Mame, I thought you were going to be married this summer?"

"We were, but Charley thought we'd better wait until I got another raise."

"McTab is a resourceful old Scotchman."

"What has he done now?"

"The doctor told him he had sugar in his tears and now every morning he cries over his cornflakes."

Recent consideration has led to the conclusion by research workers that the fruit which caused the difficulty in the Garden of Eden was not an apple as heretofore accepted, but a green pear.

At one of the summer resorts a lady demanded that the gentleman who escorted her to the canoeing celebration be reprimanded by the hotel management. An investigation developed the fact that the man had not only paddled her to the festivities but had also paddled her back!

It was on a Fourth Avenue car that a buxom woman was standing in the aisle hanging to a strap. In front of her sat a rather cantankerous looking man, apparently absorbed in a newspaper. The car stopped suddenly and she trod sharply on his foot. He looked up over the top of his paper with anything but a happy expression.

"Madam," he said, "will you please get off my foot?"

"Put your foot where it belongs," she replied shortly.

"Don't tempt me, madam, don't tempt me," he countered.

A Kentuckian had 17 children, all boys. When they came of age they voted uniformly the democratic ticket—all except one boy. The father was asked to explain this evident fall from grace.

"Wal," said he, "I've always tried to bring them boys up right, in the fear of the Lord, and democrats to the bone; but John, the ornery cuss, got to readin.'"

A strange woman had just called on the vicar of a certain parish with a distressing tale about her daughter, who was very ill in bed. She was anxious for the good man to come and visit the girl.

"I will certainly call on her if she is so bad," said the vicar. "But I don't remember ever having seen you in my church. Do you go often?"

The woman shook her head.

"No, sir," she replied. "We happen to be chapel people."

The vicar looked surprised.

"Then why didn't you send for your own minister?" he asked.

"Oh, we couldn't risk him," was the quick reply. "You see, it's scarlet fever that my daughter's got."

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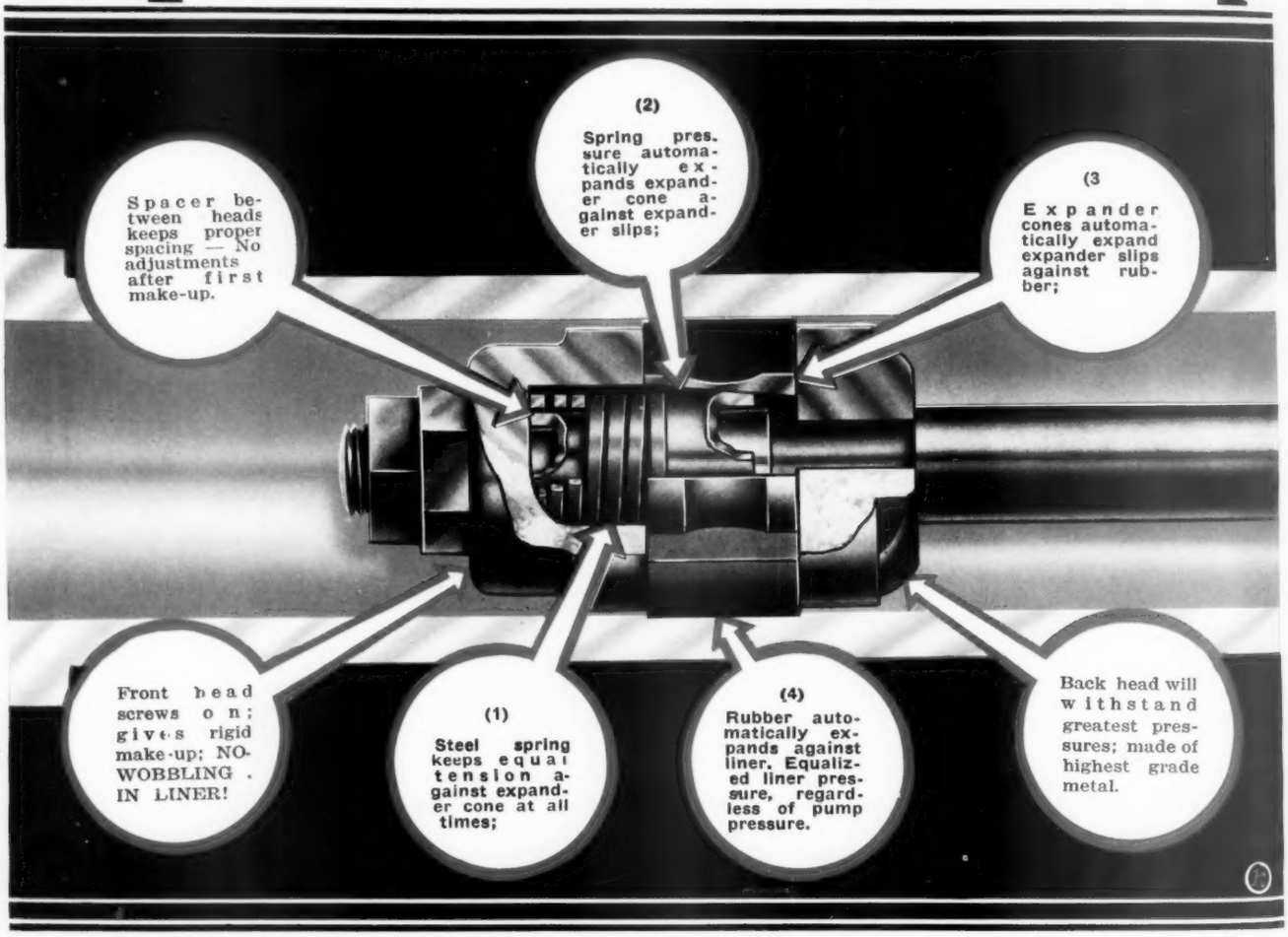
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